50465-2.16

FEBRUARY 1985

PA-332 (2-85)

Arizona Occupational Profile

A Labor Market Information Publication
of the Department of Economic Security

HOSPITALS

OCCUPATIONAL PROFILE

The value of current and accurate occupational employment information has long been recognized by job seekers, public and private administrators, and those involved in training, recruiting, and counseling. A major source of this information in Arizona is the Occupational Employment Statistics (OES) Program -- a cooperative effort between Arizona and the U. S. Bureau of Labor Statistics.

This Occupational Profile is one in a series of publications produced from information developed by the Occupational Employment Statistics survey. These publications represent one of several occupational employment information delivery systems incorporating OES survey data. The survey is used to collect employment data, by county, for over 700 occupations in Arizona. From these surveys, which require the cooperation of the Arizona business community, current employment in the various occupations is determined, and from this an occupational outlook is formulated. The Occupational Profiles contain the survey findings and examine, individually, the industries of Arizona.

Surveyed industries include:

- Mining
- Construction
- Manufacturing
- Transportation, Communications, and Public Utilities
- Trade
- Finance, Insurance, and Real Estate
- Services
- Government

For further information, or to comment on any aspect of this program, please write to the address on the back cover.

INDUSTRY INFORMATION

INDUSTRY DEFINITION

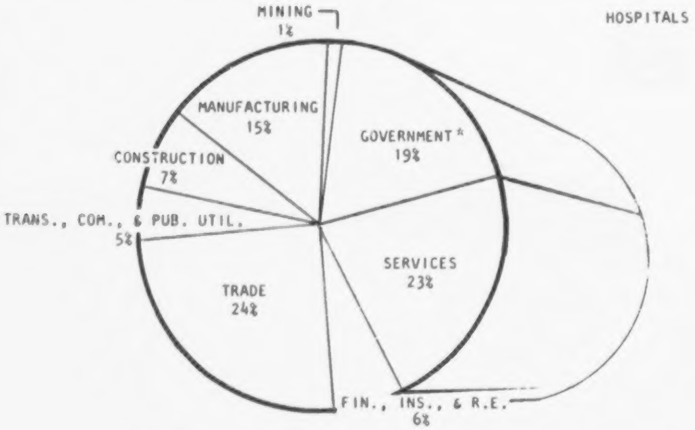
This industry group includes establishments primarily engaged in providing diagnostic services, extensive medical treatment including surgery, continuous nursing services, as well as education and research activities. These establishments have an organized medical staff, inpatient beds, and equipment and facilities to provide complete health care. Occupational employment information presented in this publication is based on data provided by each of the 91 hospitals operating in Arizona in May 1983. These hospitals can be categorized as general and surgical, psychiatric, or specialty hospitals, e.g., children's hospitals. Included within the scope of this publication are private hospitals, those administered by federal, state, and local governments, and those operated by firms identified with other industries, e.g., mining.

A detailed description of the hospital services industry is found in the Standard Industrial Classification (SIC) Manual[1] under industry code 806.

INDUSTRY CHARACTERISTICS

Employing more than half of the nearly 80,000 in Arizona's total health delivery system, hospitals are the largest employer of health workers in the state. Representing 4 percent of the state's workers, employment in Arizona's 91 hospitals averaged 47,000 in 1983. Most of the state's 91 hospitals were privately operated with the remainder administered by federal and local governments. Federal hospitals included 16 Public Health Service or Indian Hospitals, 4 military, and 3 Veteran's Administration facilities. State and local governments, on the other hand, administer eight of Arizona's hospitals. In the private sector, 3 hospitals were owned by mining companies.

FIGURE 1: ARIZONA NONAGRICULTURAL EMPLOYMENT, 1983



* includes education

---

[1] Office of management and Budget, *Standard Industrial Classification Manual, 1972 Edition*, p. 322.

Although in the midst of a period of rapid change and redefinition of roles, hospitals may still be regarded as belonging in one of three general categories: general, psychiatric, and specialty. General hospitals represent more than 90 percent of all hospitals in Arizona and employ approximately 95 percent of the industry's workers. These hospitals are primarily involved in rendering care for patients with medical conditions that require diagnosis and medical/surgical treatment involving patient stays of a few days to a few weeks.

Psychiatric hospitals are specialty establishments primarily involved with providing diagnostic services and inpatient treatment to the mentally ill. Because patients are often hospitalized for several weeks or more, these and other specialty hospitals are often referred to as "long-term" care facilities. The four psychiatric hospitals in Arizona employ less than five percent of the hospital workers in the state.

Specialty hospitals, except psychiatric, provide diagnostic and treatment services for specific conditions and diseases such as pregnancy; children's ailments; geriatric conditions; tuberculosis; and eye, ear, nose, and throat diseases. In 1983, employment totaled nearly 400 in Arizona's two specialty hospitals which are both located in Phoenix.

Hospital employment is concentrated in metropolitan areas, and its geographic distribution is similar to that of total Arizona employment. The number of hospitals, however, is divided equally between the metropolitan and rural counties. Approximately half of all Arizona hospitals are located outside of Maricopa and Pima counties, yet they employ only 13 percent of Arizona's hospital workers. Offering more specialized and a wider range of services, metropolitan hospitals average 820 employees as compared to 170 in their rural counterparts. All psychiatric and specialty hospitals are located in Maricopa and Pima counties.

FIGURE 2: HOSPITAL EMPLOYMENT
BY GEOGRAPHICAL AREA - MAY 1983

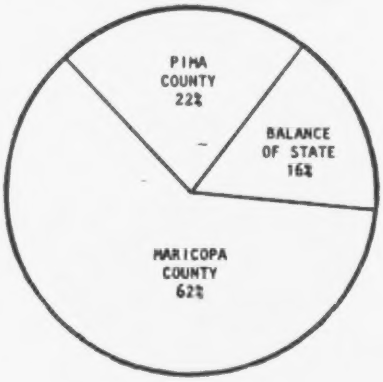


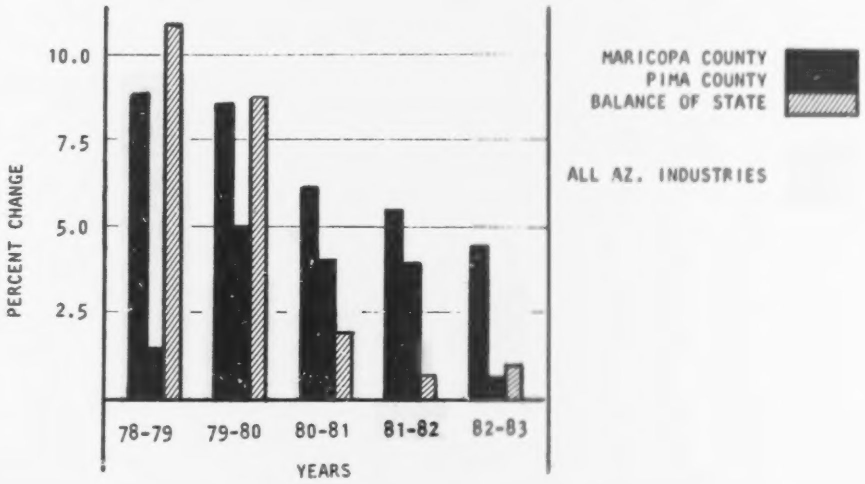
FIGURE 3: ARIZONA HOSPITALS AT A GLANCE
MAY 1983

COUNTY	NUMBER OF HOSPITALS	TOTAL EMPLOYMENT	HOSPITAL TYPE	OWNERSHIP
Apache	4	594	general	Private (2) Federal - Public Health Service (PHS) (2)
Cochise	6	857	general	Private (5) Federal - Army (1)
Coconino	4	944	general	Private (2) Federal - PHS (2)
Gila	4	580	general	Private (2) Federal - PHS (1) Local Government (1)
Graham	2	136	general	Private (1) Federal - PHS (1)
Greenlee	1	90	general	Private - Mining Industry
LaPaz	2	145	general	Private (1) Federal - PHS (1)
Maricopa	33	29,009	general (29) psych. (2) specialty (2) children's (1) research (1)	Private (25) Federal (5) Air Force (2) Veteran's Adm. (1) PHS (1) Inst. of Health (1) State & Local Govts. (3)
Mohave	3	492	general	Private (1) Federal - PHS (1) Local Government (1)
Navajo	6	613	general	Private (3) Federal - PHS (3)
Pima	14	10,511	general (12) psych. (2)	Private (9) Mining Industry (1) Federal (3) Air Force (1) Veteran's Adm. (1) PHS (1) State & Local Govts. (2)
Pinal	5	617	general	Private (3) Mining Industry (2) Federal - PHS (1) Local Govt. (1)
Santa Cruz	1	168	general	Private
Yavapai	3	1,189	general	Private (2) Federal - VA (1)
Yuma	3	920	general	Private (1) Federal - PHS (2)
STATEWIDE	91	46,865	general - 85 psych. - 4 specialty - 2	Private - 59 Federal - 24 State & Local Govts. - 8

INDUSTRY TRENDS

Hospital employment has shown consistent and rapid expansion in Arizona over the past two decades. For the 5-year period ending in 1983, hospital employment expanded by 11,000, or 30 percent, as compared to a 19 percent increase for total Arizona employment. Nationally, hospital employment increased nearly 20 percent for the period (compared to 4 percent for all industries) and distinguished the industry as one of the nation's fastest growing. General medical and surgical hospitals accounted for virtually all the employment growth in Arizona's hospitals while employment in psychiatric hospitals grew slightly and in specialty hospitals declined.

FIGURE 4: HOSPITAL EMPLOYMENT GROWTH RATES
1978 - 1983



The Phoenix metropolitan area has witnessed the most dramatic employment change as the number of workers in hospitals rose nearly 40 percent between 1978 and 1983. As significant as this growth rate is, it represents a moderation of expansion rates of the 1960s and 70s when hospital staffs were supplemented to service a burgeoning population. For the 5-year period ending in 1983, hospital employment in Pima county expanded 16 percent while hospital workers in the "balance of state" increased their numbers 25 percent.

In the coming years, employment growth in Arizona's hospitals will maintain its trend of increases. Projected increases, estimated at about 5 percent annually, will result primarily from the requirements of Arizona's expanding and aging population. However, the interplay of demographic, social, and economic factors will have an, as yet, largely undetermined effect on hospital employment levels in the future. Since 1965, the nation's consumer price index for medical care services has quadrupled and, indeed, inflation in medical care costs and broad-based efforts to contain these costs present the greatest uncertainties in the projection of medical services output and employment. Nationally, health care expenditures will rise from an estimated $355 billion in 1983 to $575 billion in 1988, an annual growth rate of 10.2 percent compared to a 13.4 percent annual rate between 1978 and 1983. This slower growth will result primarily from increased competition in the industry, a reduction in the overall inflation rate, and federal restrictions on payments to hospitals and physicians under the Tax and Equity Fiscal Responsibility Act of 1982.

To be sure, the hospital industry is in a period of transition -- adjusting to a variety of influences that include technological advances and a society that is helping to redefine the role of health services providers. These forces have contributed to the realization of a variety of fundamental changes in the industry. Changes in payment mechanisms, for example, and continued growth of health maintenance organizations will play a part in redefining hospital roles. Also, the greater reliance on home health care services is expected to both enhance patient care and offer hospitals cost-saving opportunities. Such trends will affect both the number and kinds of workers employed in hospitals.

Many industry representatives and analysts observe that, over the long term, hospitals will become more acute-care oriented. Mr. David Gyongyos, Human Resources Director at Scottsdale Memorial Health Services Co., Inc. feels this trend is already evident. "For example," says Mr. Gyongyos, "the performance of certain tests and treatments before hospitalization rather than during, and the release of certain patients a day earlier to rest at home is effectively shortening hospital stays." The continued growth of walk-in surgical centers, extended and out-patient care facilities, and home health care providers represents both a cause and result of the greater emphasis that hospitals are placing on acute care. These trends have already been manifested in the recently observed drop in the average length of a hospital stay.

Maricopa County will continue to register the largest increases as its share of Arizona's hospital employment expands. Compared to an expected increase of between 16 and 18 percent nationally, hospital employment in Maricopa County is predicted to expand 24 percent between 1983 and 1988. Hospital workers in Pima County and the "balance of state" are expected to increase their numbers 15 and 23 percent, respectively.

OCCUPATIONAL INFORMATION

Hospital employees are engaged in a broad range of medical and administrative activities requiring a variety of occupational skills. In addition to the medical personnel that we traditionally associate with this industry, hospitals also employ accountants and auditors, engineers, professional librarians, and other seemingly unrelated occupations. In some respects, the hospital resembles and incorporates activities usually found in commercial enterprises. In addition to the business, administrative, and service departments commonly found in commercial firms, the hospital often includes a power plant, dietary service, and maintenance staff.

Above all, however, the hospital brings together various types of personnel and facilities for specific lifesaving efforts and related public health, educational, and research activities. Although there is no typical hospital, each participates, to some degree, in all of the related activities. Hospital personnel must work, therefore, in an atmosphere of coordinated effort which reflects the breadth of hospital functions.

Although the hospital environment encompasses personnel with a variety of occupational skills, the bulk of hospital employment is in health-related occupations which are of a professional or technical nature. Led by 12,000 registered nurses, the "professional, paraprofessional, and technical workers" category accounts for more than 50 percent of the state's hospital employment. Along with registered nurses are a variety of other numerically prominent health practitioners that includes 3,000 licensed practical nurses, 1,300 physicians and surgeons, and 1,000 medical and clinical lab technologists.

FIGURE 5: OCCUPATIONS IN ARIZONA'S HOSPITALS
MAY 1983

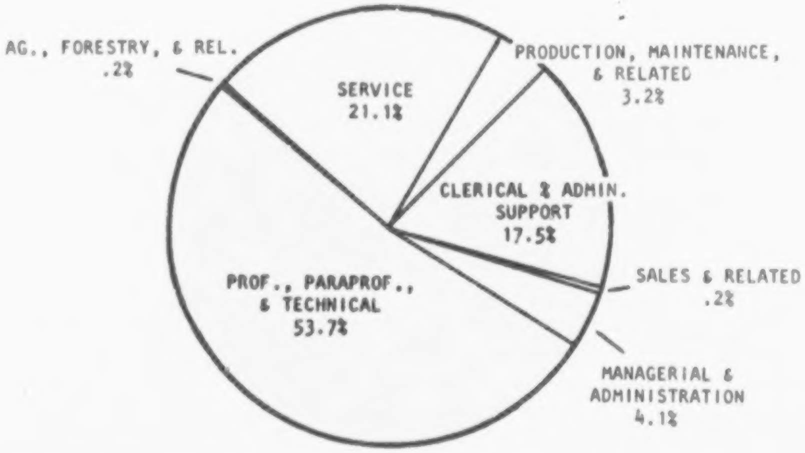


FIGURE 6: OCCUPATIONS WITH THE GREATEST EMPLOYMENT IN ARIZONA'S HOSPITALS

	Employment 1983	Job Openings* 1983-1987
Registered Nurses	12,141	5,620
Nurse's Aides, Orderlies, & Attendants	3,275	1,530
Licensed Practical Nurses	3,041	1,540
Maids and Housekeeping Cleaners	1,551	778
Physicians & Surgeons	1,317	442
General Office Clerks	1,113	503
Medical & Clinical Lab Technologists	1,009	436
Secretaries (Exc. Medical)	874	449
Medical & Health Services Managers	820	328
Food Preparation Workers	776	332
Interviewing Clerks, Exc. Personnel & Social Welfare	714	304
Typists	644	339
Respiratory Therapists	632	247
Medical & Clinical Laboratory Technicians	601	239
Radiologic Technologists	569	237
Billing, Cost, & Rate Clerks	561	266
Medical Secretaries	526	269
Surgical Technicians	512	192
Pharmacists	486	190
Social Workers, Medical & Psychiatric	464	195
Food Servers, Exc. Restaurant	417	150
Medical Assistants	378	177
Cooks, Institution or Cafeteria	364	141
Stock Clerks - Stockroom, Warehouse, or Storage Yard	362	113
Janitors & Cleaners, Exc. Maids & Housekeeping	361	134
Medical Records Technicians & Technologists	360	199
First Line Supervisors & Managers - Clerical	352	123
Bookkeeping, Accounting, & Auditing Clerks	339	155
General Managers & Top Executives	331	108
Maintenance Repairers, General Utility	330	98
Pharmacy Assistants	284	129
Switchboard Operators	278	146
Physical Therapists	270	102
Radiologic Technicians	268	115
Housekeepers	268	101
Statistical Clerks	256	117
Guards	256	68

* Does not include turnover.

Service workers and clerical workers share most of the remaining 50 percent of hospital employment. Totaling nearly 10,000, the service worker category is dominated by nurse's aides and orderlies which number nearly 3,300, and maids and housekeeping cleaners with employment of 1,550.

Compared to hospitals across the country, those in Arizona have a higher percentage of professional and technical workers and a smaller percentage of service workers. Closer examination of professional workers employment data reveals that the staffing pattern (percentage) of registered nurses in Arizona's hospitals is 10 percent higher than the nation's. On the other hand, employment of licensed practical nurses and nurse's aides and orderlies (service occupations) is, on a percentage basis, appreciably lower in Arizona's hospitals.

A comparison of metropolitan hospital staffing patterns with their rural counterparts also reveals a notable difference. Outside Maricopa and Pima counties, hospitals tend to employ a greater number of workers in service occupations. Nursing aides, orderlies, and attendants account for 11 percent of the employment in rural hospitals -- nearly twice the ratio of these workers in Phoenix area hospitals.

Between 1983 and 1987, Arizona's hospital industry will provide jobseekers an estimated 10,000 new jobs as a result of industry growth. An additional 10,000 openings will transpire as workers leave the labor force and many more will be created as employees leave one job to take another.

Few jobseekers will find a greater number of opportunities than those aspiring to be registered nurses (RNs). The strong demand for registered nurses is, in part, a function of their training, which permits them to work effectively in a variety of roles and employment settings. More versatile than licensed practical nurses (LPNs), for example, RNs lend themselves to the needs of expanding intensive and special care facilities.

While many argue that the skills of registered nurses are becoming more specialized, a number of hospital administrators agree with Niki O'Keefe, Assistant Director of Employer Relations at St. Luke's Medical Center, that a broader perspective and a wider range of capabilities will enable RNs to work in different hospital environments. Whichever is the prevailing trend, the number of RNs will probably be affected favorably. Additionally, many RNs will be well suited for work in the emerging "alternative" delivery systems such as as ambulatory surgical clinics, freestanding emergency centers, and home-health systems.

FIGURE 7: IN 1980, TWO-THIRDS OF ALL REGISTERED NURSES IN THE U.S. WERE EMPLOYED IN HOSPITALS

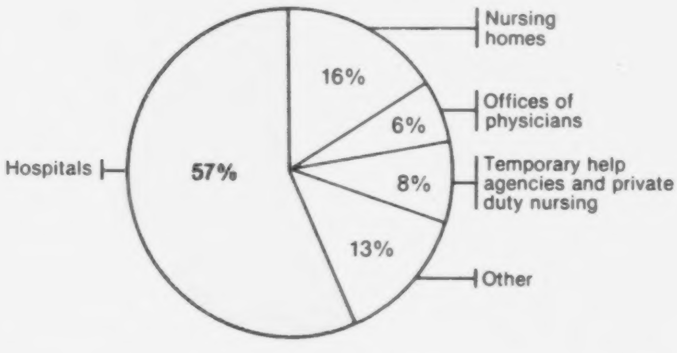
	Percent
Total	100.0
Hospitals	65.6
Nursing homes or long-term care facilities	8.0
Public or community health facilities	6.6
Physicians' or dentists' offices	5.7
Student health services	3.5
Occupational health facilities	2.3
Private duty nursing	1.6
Other	6.7

Source: U.S. Bureau of Labor Statistics

In addition to the many job opportunities created by a growing hospital industry is an even greater number created by turnover and workers leaving the labor force. Although registered nurses show a strong attachment to their field, their replacement requirements are, as with most other occupations, the greatest source of job openings.

For every four registered nurses working in Arizona's hospitals there is one licensed practical nurse (LPN). As with RNs, projecting employment for LPNs is complicated by the interrelationship of recent and expected trends in the health services delivery system. Again, changes in the system can be expected to cause changes in the mix of hospital patients. With the increasing emphasis on specialized and acute care, the expectation is that LPNs will lose some of their share of hospital employment to the more highly trained RNs. Because of shifting roles, however, it is expected that the lower demand for hospital LPNs will be offset by growing demand for LPNs in home health agencies, nursing homes, clinics, and other establishments assuming responsibilities formerly claimed by hospitals. It should be noted that the forces affecting medical services employment are evolutionary and the expected changes in the industry will not happen overnight. For the foreseeable future, hospitals will continue to provide the greatest number of opportunities for licensed practical nurses.

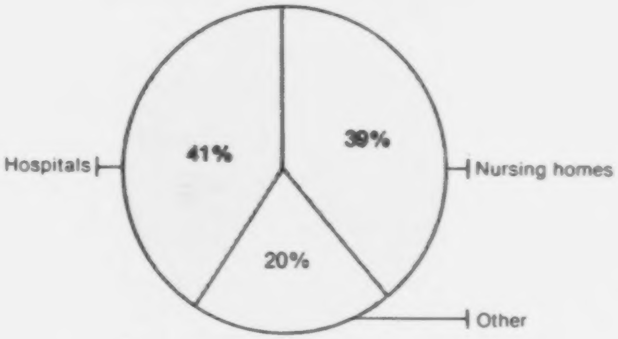
FIGURE 8: U.S. EMPLOYMENT DISTRIBUTION OF LICENSED PRACTICAL NURSES - 1982



SOURCE: Bureau of Labor Statistics

Nursing aides, orderlies, and attendants represent the second largest occupational category in hospitals. With employment of 3,300 in 1983, the number of nursing aides, orderlies, and attendants working in the industry will total approximately 4,000 by 1987. Opportunities will be plentiful due to the widespread availability of jobs and the relative ease of entry into the occupation. Replacement needs constitute the major source of job openings as turnover in these occupations is high. Although openings will be plentiful, employment of these workers is expected to grow more slowly in hospitals than in nursing homes through the mid-1990s.

FIGURE 9: U.S. EMPLOYMENT DISTRIBUTION OF NURSING AIDES, ORDERLIES, AND ATTENDANTS - 1982



SOURCE Bureau of Labor Statistics

Employment of medical technologists and technicians is expected to expand more rapidly than the average for all occupations. Even so, most openings for these workers will result from the need to replace those who transfer to other jobs or leave work altogether.

Few occupations reflect the impact of scientific advances as much as technical workers in hospitals. Computerized tomography (CT) and ultrasound scanners, nuclear magnetic resonance, and digital radiography for example, will be followed by new generations of devices and techniques requiring ever-changing skills.

Although a growing number of these workers will be employed in clinics, independent laboratories, public health agencies, and other environments, most health technicians and technologists will continue to be employed in hospitals. Expansion of preventative medicine and diagnostic techniques will strengthen demand for these workers. Changes in health care financing,

FIGURE 10: EMPLOYMENT IN SELECTED TECHNICAL OCCUPATIONS - MAY 1983

Occupation	Employment
Medical/Clinical Lab Technologists	1,009
Medical/Clinical Lab Technicians	601
Radiologic Technologists	569
Surgical Technician	512
Med. Records Technicians & Technologists	360
Electrocardiograph Techs.	159
Nuclear Medicine Technologists	129
Electroencephalograph Techs.	51
Dental Hygienists	50

however, may encourage hospitals to reduce certain of these services, but such cost containment efforts are not likely to appreciably suppress demand for technical workers.

Technological advances are also manifesting themselves in hospital offices where computers are enabling workers to attain unprecedented levels of efficiency. From intake to discharge, automated procedures are being incorporated, and the application of computer technology is nowhere more apparent than in many medical records offices. Medical records technicians and technologists with proficient skills and familiar with the latest coding and entry procedures will continue to be in strong demand.

FIGURE 11: CLERICAL OCCUPATIONS WITH THE GREATEST EMPLOYMENT IN HOSPITALS - MAY 1983

Occupation	Employment
General Office Clerks	1,113
Secretaries, Exc. Medical & Legal	874
Interviewing Clerks	714
Typists	644
Billing, Cost, & Rate Clerks	561
Medical Secretaries	526
Stock Clerks, Stkrm., Warehouse, Storage Yard	362
Managers & Supervisors - Clerical	352
Bookkeeping, Accounting, & Auditing Clerks	339

Despite automation of office procedures, clerical and administrative support occupations will increase their share of hospital employment. Rather than significantly suppressing employment levels in these occupations, automation is redefining many of the tasks performed by clerical personnel. General office clerks, interviewing clerks, typists, and billing clerks will see the greatest number of job openings during the projection period.

Planning, coordinating, and evaluating hospital activities are 1,900 managers and administrative personnel. Eighty percent of these workers are medical and health services managers, while most of the balance specialize in various other administrative functions. An increasingly complex health care system will require skilled health services managers and specialists in such areas as finance, marketing and public relations, information systems, and purchasing.

Construction, maintenance, and operating occupations number about 1,500 and represent 3 percent of the industry's employment. General utility maintenance workers are most prominent with employment of 330. These workers exercise their skills in keeping the hospital's structure, machines, and mechanical equipment in good condition. Laundry and dry cleaning operators and tenders number 115 and are followed by heating, refrigeration, and air conditioning mechanics with employment of 105. Providing more than 400 job opportunities between 1983 and 1987, the construction, maintenance, and operating occupations category will increase its share of hospital employment as a result of expansion in laundry services and heating and air conditioning employment.

OCCUPATIONAL STRUCTURE

The following thirteen tables provide hospital employment estimates and projected employment and job openings for the state and counties.

When using the data, please note the following:

1) Certain rural counties are serviced by a single hospital. Employment growth for hospitals in each of the nonmetropolitan counties reflects the rate calculated for the "balance of state" (Arizona less Maricopa and Pima counties). Projected employment for the hospital in Santa Cruz County, for example, reflects levels that would be attained if the hospital were to expand at the rate that is predicted for all hospitals in the "balance of state".

2) The data reflect full and part-time wage and salary employment only, and do not include self-employed or unpaid family workers.

3) "Total Job Openings" represents the number of openings due to growth of the industry and separations from the labor force. They do not account for labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are often the largest source of job openings.

4) The projection technique does not possess the degree of accuracy that may be implied by small employment and demand figures.

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

STATEWIDE

	Estimated May 1983 Employment	Percent of May 1983 Employment	Projected May 1987 Employment	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	1,940	4.1	2,354	693
Financial Managers	109	.2	132	39
Personnel, Training, & Labor Relations Mgrs.	76	.2	90	25
Purchasing Managers	50	.1	60	14
Marketing, Advertising, & Public Rel. Mgrs.	47	.1	56	14
Administrative Services Managers	74	.2	90	26
Medicine & Health Services Managers	820	1.7	1,006	328
Food Service & Lodging Managers	49	.1	58	16
General Managers & Top Executives	331	.7	400	108
All Other Managers & Administrators	384	.8	462	123
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	25,149	53.7	30,680	11,018
Management Support Occupations	493	1.1	597	157
Accountants & Auditors	82	.2	100	29
Budget Analysts	39	.1	45	10
All Other Financial Specialists	15	.0	19	6
Purchasing Agents, Exc. Wholesale, Retail, & Farm	67	.1	80	18
Personnel, Training, & Labor Rel. Specialists	99	.2	119	29
Compliance & Enforcement Inspectors, Exc. Const.	37	.1	45	12
All Other Management Support Workers	154	.3	189	53
Engineering & Related Occupations	193	.4	235	52
Civil Engineers, Incl. Traffic	73	.2	91	25
Electrical & Electronic Engineers	5	.0	6	1
Industrial Engineers, Exc. Safety	11	.0	13	3
Mechanical Engineers	16	.0	19	3
All Other Engineers	10	.0	12	2
Civil Engineering Technicians & Technologists	17	.0	21	5
Electrical/Electronic Engineering Technicians	23	.0	28	6
Industrial Engineering Techs.	6	.0	7	1
Mechanical Engineering Techs.	7	.0	9	2
Drafters	8	.0	9	1
All Other Engineering & Related Technicians	17	.0	20	3
Natural Scientists & Related Occupations	130	.3	155	38
Chemists, Exc. Biochemists	1	.0	1	0
All Other Physical Scientists	18	.0	22	5
Biological Scientists	44	.1	53	14
Medical Scientists	41	.1	49	13
Biological, Agri., & Food Techs., Exc. Health	12	.0	14	3
Chemical Techs., Exc. Health	11	.0	13	3
All Other Physical & Life Science Techs.	3	.0	3	0
Computer, Math, Research, & Related Occupations	79	.2	93	18
Systems Analysts, Electronic Data Processing	33	.1	40	8
Computer Programmers	34	.1	40	8
Computer Programmer Aides	5	.0	5	0
Statisticians	6	.0	7	2
Mathematical Technicians	1	.0	1	0
Social, Recreational, & Related Occupations	776	1.7	949	303
Psychologists	74	.2	91	23
All Other Social Scientists	5	.0	6	1
Social Workers, Medical & Psychiatric	464	1.0	566	195
Social Workers, Exc. Medical & Psychiatric	38	.1	47	16
Social Service Technicians	146	.3	179	51
Clergy	49	.1	60	17
Teachers, Librarians, & Related Occupations	248	.5	301	86
Nursing Instructors	148	.3	181	49
Teachers & Instructors, Voc. Ed. & Training	30	.1	37	11
All Other Teachers & Instructors	38	.1	46	15
Librarians, Professional	19	.0	22	7

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

STATEWIDE (CONTD.)

	Estimated May 1983 Employment	Percent of May 1983 Employment	Projected May 1987 Employment	Total Job Openings 1983-1987
Technical Assistants, Library	13	.0	15	4
Health Practitioners, Techs., & Related Occupations	23,090	49.3	28,178	10,315
Physicians & Surgeons	1,317	2.8	1,598	442
Dentists	65	.1	78	17
Optometrists	10	.0	11	2
Podiatrists	6	.0	7	2
All Other Health Diagnosing/Treating Practitioners	4	.0	5	2
Respiratory Therapists	632	1.3	769	247
Occupational Therapists	114	.2	140	46
Physical Therapists	270	.6	327	102
Corrective & Manual Arts Therapists	13	.0	15	4
Speech Pathologists & Audiologists	49	.1	60	19
Recreational Therapists	34	.1	40	11
All Other Therapists	5	.0	6	2
Registered Nurses	12,141	25.9	14,814	5,620
Licensed Practical Nurses	3,041	6.5	3,717	1,540
Emergency Medical Technicians	106	.2	130	40
Physician Assistants	58	.1	70	25
Opticians, Dispensing & Measuring	1	.0	1	0
Pharmacists	486	1.0	589	190
Dietitians & Nutritionists	168	.4	205	78
Dietetic Technicians	123	.3	150	55
Medical & Clinical Laboratory Technologists	1,009	2.2	1,224	436
Medical & Clinical Laboratory Technicians	601	1.3	740	239
Dental Hygienists	50	.1	62	26
Medical Records Technicians & Technologists	360	.8	440	199
Nuclear Medicine Technologists	129	.3	159	56
Radiologic Technologists	569	1.2	693	237
Radiologic Technicians	268	.6	330	115
Electroencephalograph Techs.	51	.1	61	18
Electrocardiograph Techs.	159	.3	194	61
Surgical Technicians	512	1.1	629	192
All Other Health Professionals, Paraprofessionals, & Technicians	739	1.6	914	292
Writers, Artists, Athletes, & Related	58	.1	71	21
Public Rel. Specialists & Publicity Writers	36	.1	44	14
Photographers	22	.0	27	7
All Other Professional, Paraprofessional, & Technical Workers	82	.2	101	28
SALES & RELATED OCCUPATIONS	101	.2	123	42
Cashiers	93	.2	113	39
All Other Sales & Related Workers	8	.0	10	3
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	8,216	17.5	10,012	3,702
First Line Supers. & Mgr./Supers.	352	.8	426	123
First Line Supers.-Clerical & Admin. Support	352	.8	426	123
Industry-Specific Clerical & Admin. Support	17	.0	20	4
Library Assistants & Bookmobile Drivers	17	.0	20	4
General Office Occupations	5,756	12.3	7,026	2,730
Medical Secretaries	526	1.1	646	269
All Other Secretaries	874	1.9	1,074	449
Stenographers	69	.1	85	32
Receptionists & Information Clerks	143	.3	174	65
Typists	644	1.4	786	339
Typists, Word Processing Equipment	74	.2	92	30
Personnel Clerks, Exc. Payroll & Timekeeping	111	.2	135	58
File Clerks	156	.3	190	83
Order Clerks - Materials, Merch., & Service	43	.1	52	19

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

STATEWIDE (CONTD.)

	Estimated May 1983 Employment	Percent of May 1983 Employment	Projected May 1987 Employment	Total Job Openings 1983-1987
Procurement Clerks	80	.2	95	22
Statistical Clerks	256	.5	311	117
Interviewing Clerks, Exc. Personnel & Welfare	714	1.5	875	304
Bookkeeping, Accounting, & Auditing Clerks	339	.7	416	155
Payroll & Timekeeping Clerks	53	.1	63	19
Billing, Cost, & Rate Clerks	561	1.2	689	266
General Office Clerks	1,113	2.4	1,344	503
Office Machine Operators	367	.8	446	128
Billing, Posting, & Calculating Machine Opers.	25	.0	30	10
Computer Operators, Exc. Peripheral Equipment	91	.2	112	30
Peripheral EDP Equipment Operators	21	.0	26	10
Data Entry Keyers, Exc. Composing	214	.5	259	70
All Other Office Machine Operators	16	.0	19	8
Communications & Message Distribution	278	.6	336	146
Switchboard Operators	278	.6	336	146
Material Distribution & Recording Occupations	532	1.1	647	170
Dispatchers - Police, Fire, & Ambulance	43	.1	53	16
Stock Clerks - Stockroom, Warehouse, or Yard	362	.8	439	113
Traffic, Shipping, & Receiving Clerks	75	.2	91	23
All Other Material Recording/Scheduling/Dist.	52	.1	64	18
All Other Clerical & Admin. Support Occupations	914	2.0	1,111	378
SERVICE OCCUPATIONS	9,902	21.1	12,072	4,377
First Line Supervisors & Managers - Service	446	1.0	535	178
Housekeepers	268	.6	319	101
All Service Supervisors & Managers	178	.4	216	77
Protective Service Occupations	256	.5	314	68
Guards & Watch Guards	256	.5	314	68
Food & Beverage Preparation	2,036	4.3	2,482	807
Waiters & Waitresses	4	.0	5	2
Food Servers, Outside	417	.9	510	150
Dining Room/Cafeteria Attdts. & Bartdr. Helpers	82	.2	96	17
Counter Attendants - Lunchroom, Coffee Shop, & Cafeteria	58	.1	72	28
Bakers, Bread & Pastry	16	.0	19	5
Cooks, Institution or Cafeteria	364	.8	444	141
Cooks, Short Order	36	.1	44	12
Food Preparation Workers	776	1.7	947	332
All Other Food Service Workers	283	.6	345	120
Health Services & Related Occupations	5,083	10.8	6,210	2,342
Dental Assistants	135	.3	166	76
Medical Assistants	378	.8	460	177
Nursing Aides, Orderlies, & Attendants	3,275	7.0	3,995	1,530
Home Health Aides	43	.1	53	16
Psychiatric Aides	199	.4	245	95
Physical & Corrective Therapy Assists./Aides	244	.5	298	112
Occupational Therapy Assistants & Aides	201	.4	250	100
Ambulance Drivers & Attendants - Exc. Emergency Medical Technicians	37	.1	46	13
Pharmacy Assistants	284	.6	344	129
All Other Health Service Workers	287	.6	353	94
Cleaning & Building Services Occupations	1,982	4.2	2,411	937
Maids & Housekeeping Cleaners	1,551	3.3	1,887	778
Janitors & Cleaners, Exc. Maids & Housekeeping	361	.8	438	133
Elevator Operators	1	.0	1	0
All Other Cleaning/Building Service, Exc. Private House	69	.1	85	26

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

STATEWIDE (CONTD.)

	Estimated May 1983 Employment	Percent of May 1983 Employment	Projected May 1987 Employment	Total Job Openings 1983-1987
Personal Service Occupations	38	.1	47	19
Barbers	4	.0	5	1
Hairdressers, Hairstylists, & Cosmetologists	5	.0	6	2
Social Welfare Service Aides	3	.0	4	2
Child Care Workers	26	.1	32	14
All Other Service Occupations	61	.1	73	26
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	75	.2	89	24
Gardeners & Groundskeepers, Exc. Farm	72	.2	86	24
All Other Agri., Forestry, Fishing, & Related	3	.0	3	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,482	3.2	1,794	428
First Line Supervisors & Managers - Prod. & Rel.	151	.3	181	50
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	64	.1	76	19
First Line Managers/Supervisors - Construction Trades & Extraction Workers	27	.1	32	9
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	60	.1	73	22
Inspectors & Related Occupations	2	.0	2	0
Mechanics, Installers & Repairers	580	1.2	709	166
Machinery Maintenance Mechanics	41	.1	51	12
Maintenance Repairers, General Utility	330	.7	405	98
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	105	.2	127	29
Electromedical & Biomedical Equip. Repairers	72	.2	87	18
Menders - Garments, Linens, & Related	11	.0	13	3
All Other Mechanics, Installers, & Repairers	21	.0	26	6
Construction Trades & Extraction	258	.6	309	70
Carpenters	67	.1	80	19
Electricians	69	.1	83	19
Painters & Paperhangers - Construction & Maintenance	51	.1	61	15
Plumbers, Pipefitters, & Steamfitters	43	.1	51	10
All Other Construction Trades Workers	28	.1	34	7
Precision Production Occupations	20	.0	22	2
Machinists	4	.0	4	0
Precision Dental Laboratory Technicians	8	.0	9	1
Medical Appliance Makers	1	.0	1	0
All Other Precision Workers	7	.0	8	1
Machine Setters, Operatives, & Tenders	186	.4	225	60
Sewing Machine Operators, Non-Garment	11	.0	13	3
Laundry/Drycleaning Mach. Opers., Exc. Pressing	115	.2	140	40
Pressing Machine Opers. - Textile & Garments	13	.0	16	5
Boiler Operators & Tenders, Low Pressure	25	.1	29	5
All Machine Setters & Set-Up Operators	16	.0	20	6
All Other Machine Operators & Tenders	6	.0	7	1
Assemblers & Fabricators	15	.0	17	3
Sewers, Hand	4	.0	4	0
All Other Hand Workers	11	.0	13	3
Plant & System Occupations	91	.2	111	29
Stationary Engineers	86	.2	105	28
All Other Plant & System Operators	5	.0	6	1

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

STATEWIDE (CONTD.)

	Estimated May 1983 Employment	Percent of May 1983 Employment	Projected May 1987 Employment	Total Job Openings 1983-1987
Transportation, Material Moving Equipment	101	.2	123	26
Truck Drivers, Light - Incl. Delivery & Route	52	.1	64	14
All Other Motor Vehicle Operators	20	.0	24	5
All Other Transportation & Related Workers	18	.0	22	5
Industrial Truck & Tractor Operators	11	.0	13	2
Helpers, Laborers, & Material Movers - Hand	78	.2	95	22
TOTAL ALL OCCUPATIONS	46,865	100.0	57,124	20,284

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

APACHE COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	18	21	3	2	5
Financial Managers	1	1	0	0	0
Administrative Services Managers	1	1	0	0	0
Medicine & Health Services Managers	10	12	2	2	4
General Managers & Top Executives	4	5	1	0	1
All Other Managers & Administrators	2	2	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	315	381	66	61	127
Accountants & Auditors	1	1	0	0	0
Budget Analysts	2	2	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	2	2	0	0	0
Personnel, Training, & Labor Rel. Specialists	2	2	0	0	0
Compliance & Enforcement Inspectors, Exc. Const.	1	1	0	0	0
All Other Management Support Workers	1	1	0	0	0
Civil Engineers, Incl. Traffic	9	11	2	1	3
Industrial Engineers, Exc. Safety	1	1	0	0	0
Civil Engineering Technicians & Technologists	8	10	2	1	3
Drafters	4	5	1	0	1
All Other Engineering & Related Technicians	6	7	1	0	1
All Physical Scientists	2	2	0	0	0
Biological, Agri., & Food Techs., Exc. Health	1	1	0	0	0
Chemical Techs., Exc. Health	1	1	0	0	0
All Other Physical & Life Science Techs.	2	2	0	0	0
Psychologists	1	1	0	0	0
Social Workers, Medical & Psychiatric	3	4	1	1	2
Social Service Technicians	5	6	1	1	2
Teachers & Instructors, Voc. Ed. & Training	1	1	0	0	0
Physicians & Surgeons	26	32	6	3	9
Dentists	9	11	2	1	3
Optometrists	1	1	0	0	0
Physical Therapists	2	2	0	0	0
Registered Nurses	101	124	23	25	48
Licensed Practical Nurses	28	34	6	8	14
Emergency Medical Technicians	5	6	1	1	2
Physician Assistants	4	5	1	1	2
Pharmacists	8	10	2	1	3
Dietitians & Nutritionists	1	1	0	0	0
Dietetic Technicians	4	5	1	1	2
Medical & Clinical Laboratory Technologists	14	17	3	3	6
Medical & Clinical Laboratory Technicians	6	7	1	1	2
Dental Hygienists	9	11	2	2	4
Medical Records Technicians & Technologists	17	21	4	6	10
Nuclear Medicine Technologists	1	1	0	0	0
Radiologic Technologists	6	7	1	1	2
Radiologic Technicians	4	5	1	1	2
Surgical Technicians	3	4	1	0	1
All Other Health Professionals, Paraprofessionals, & Technicians	13	16	3	2	5
SALES & RELATED OCCUPATIONS	1	1	0	0	0
Cashiers	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	90	111	21	22	43
First Line Supers.-Clerical & Admin. Support	6	7	1	1	2
Library Assistants & Bookmobile Drivers	1	1	0	0	0
Medical Secretaries	11	14	3	3	6
All Other Secretaries	14	17	3	4	7
Stenographers	1	1	0	0	0
Receptionists & Information Clerks	3	4	1	0	1
Typists	7	9	2	2	4
Personnel Clerks, Exc. Payroll & Timekeeping	3	4	1	1	2
Procurement Clerks	2	2	0	0	0
Statistical Clerks	1	1	0	0	0

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

APACHE COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Bookkeeping, Accounting, & Auditing Clerks	3	4	1	1	2
Billing, Cost, & Rate Clerks	3	4	1	1	2
Data Entry Keyers, Exc. Composing	1	1	0	0	0
Switchboard Operators	5	6	1	1	2
Stock Clerks - Stockroom, Warehouse, or Yard	4	5	1	0	1
All Other Clerical & Administrative Support	25	31	6	8	14
SERVICE OCCUPATIONS	125	153	28	27	55
Housekeepers	2	2	0	0	0
All Service Supervisors & Managers	1	1	0	0	0
Guards & Watch Guards	4	5	1	0	1
Food Servers, Outside	1	1	0	0	0
Cooks, Institution or Cafeteria	7	9	2	1	3
Cooks, Short Order	2	2	0	0	0
Food Preparation Workers	5	6	1	1	2
Dental Assistants	11	14	3	4	7
Nursing Aides, Orderlies, & Attendants	58	71	13	14	27
Home Health Aides	2	2	0	0	0
Physical & Corrective Therapy Assists./Aides	1	1	0	0	0
Pharmacy Assistants	4	5	1	1	2
All Other Health Service Workers	3	4	1	0	1
Maids & Housekeeping Cleaners	21	26	5	6	11
Janitors & Cleaners, Exc. Maids & Housekeeping	3	4	1	0	1
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	2	2	0	0	0
Gardeners & Groundskeepers, Exc. Farm	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	43	52	9	2	11
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	3	4	1	0	1
Machinery Maintenance Mechanics	3	4	1	0	1
Maintenance Repairers, General Utility	8	10	2	1	3
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	3	4	1	0	1
Electromedical & Biomedical Equip. Repairers	2	2	0	0	0
Carpenters	1	1	0	0	0
Electricians	2	2	0	0	0
Plumbers, Pipefitters, & Steamfitters	1	1	0	0	0
Machinists	1	1	0	0	0
Boiler Operators & Tenders, Low Pressure	1	1	0	0	0
Truck Drivers, Light - Incl. Delivery & Route	16	20	4	1	5
Helpers, Laborers, & Material Movers, Hand	2	2	0	0	0
TOTAL ALL OCCUPATIONS	594	721	127	114	241

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

COCHISE COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	43	52	9	6	15
Financial Managers	6	7	1	1	2
Personnel, Training, & Labor Relations Mgrs.	1	1	0	0	0
Purchasing Managers	3	4	1	0	1
Marketing, Advertising, & Public Rel. Mgrs.	1	1	0	0	0
Administrative Services Managers	3	4	1	1	2
Medicine & Health Services Managers	15	18	3	2	5
Food Service & Lodging Managers	1	1	0	0	0
General Managers & Top Executives	6	7	1	1	2
All Other Managers & Administrators	7	9	2	1	3
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	383	466	83	94	177
Accountants & Auditors	2	2	0	0	0
Budget Analysts	2	2	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	2	2	0	0	0
Computer Programmers	1	1	0	0	0
Computer Programmer Aides	1	1	0	0	0
Social Workers, Medical & Psychiatric	4	5	1	0	1
Social Service Technicians	1	1	0	0	0
Nursing Instructors	2	2	0	0	0
Technical Assistants, Library	1	1	0	0	0
Physicians & Surgeons	9	11	2	1	3
Dentists	1	1	0	0	0
Optometrists	1	1	0	0	0
Respiratory Therapists	6	7	1	1	2
Occupational Therapists	1	1	0	0	0
Physical Therapists	5	6	1	1	2
Registered Nurses	169	208	39	41	80
Licensed Practical Nurses	67	83	16	19	35
Emergency Medical Technicians	6	7	1	1	2
Pharmacists	12	15	3	2	5
Dietitians & Nutritionists	3	4	1	1	2
Dietetic Technicians	1	1	0	0	0
Medical & Clinical Laboratory Technologists	21	26	5	5	10
Medical & Clinical Laboratory Technicians	6	7	1	1	2
Dental Hygienists	12	15	3	4	7
Medical Records Technicians & Technologists	15	18	3	5	8
Radiologic Technologists	2	2	0	0	0
Radiologic Technicians	15	18	3	3	6
Surgical Technicians	9	11	2	1	3
All Other Health Professionals, Paraprofessionals, & Technicians	6	7	1	8	9
SALES & RELATED OCCUPATIONS	2	2	0	0	0
Cashiers	2	2	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	163	197	34	33	67
First Line Supers.-Clerical & Admin. Support	9	11	2	1	3
Medical Secretaries	4	5	1	1	2
All Other Secretaries	15	18	3	4	7
Stenographers	2	2	0	0	0
Typists	15	18	3	5	8
Personnel Clerks, Exc. Payroll & Timekeeping	1	1	0	0	0
Procurement Clerks	5	6	1	0	1
Statistical Clerks	4	5	1	1	2
Interviewing Clerks, Exc. Personnel & Welfare	19	23	4	4	8
Bookkeeping, Accounting, & Auditing Clerks	5	6	1	1	2
Billing, Cost, & Rate Clerks	21	26	5	5	10
General Office Clerks	6	7	1	1	2
Computer Operators, Exc. Peripheral Equipment	2	2	0	0	0
Data Entry Keyers, Exc. Composing	4	5	1	0	1
Switchboard Operators	2	2	0	0	0
Stock Clerks - Stockroom, Warehouse, or Yard	9	11	2	1	3

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

COCHISE COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
All Other Material Recording/Scheduling/Dist.	1	1	0	0	0
All Other Clerical & Administrative Support	39	48	9	9	18
SERVICE OCCUPATIONS	241	293	52	54	106
Housekeepers	8	10	2	2	4
All Service Supervisors & Managers	2	2	0	0	0
Guards & Watch Guards	1	1	0	0	0
Food Servers, Outside	2	2	0	0	0
Bakers, Bread & Pastry	1	1	0	0	0
Cooks, Institution or Cafeteria	22	27	5	4	9
Food Preparation Workers	39	48	9	8	17
All Other Food Service Workers	1	1	0	0	0
Dental Assistants	6	7	1	2	3
Medical Assistants	1	1	0	0	0
Nursing Aides, Orderlies, & Attendants	101	124	23	25	48
Psychiatric Aides	3	4	1	1	2
Physical & Corrective Therapy Assists./Aides	6	7	1	1	2
Occupational Therapy Assistants & Aides	1	1	0	0	0
Pharmacy Assistants	6	7	1	1	2
All Other Health Service Workers	2	2	0	0	0
Maids & Housekeeping Cleaners	29	36	7	8	15
Janitors & Cleaners, Exc. Maids & Housekeeping	10	12	2	2	4
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	2	2	0	0	0
Gardeners & Groundskeepers, Exc. Farm	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	23	27	4	2	6
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	4	5	1	1	2
Machinery Maintenance Mechanics	1	1	0	0	0
Maintenance Repairers, General Utility	9	11	2	1	3
Electromedical & Biomedical Equip. Repairers	4	5	1	0	1
Precision Dental Laboratory Technicians	1	1	0	0	0
All Other Hand Workers	1	1	0	0	0
Industrial Truck & Tractor Operators	2	2	0	0	0
TOTAL ALL OCCUPATIONS	857	1,039	182	189	371

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

COCONINO COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	66	80	14	8	22
Financial Managers	2	2	0	0	0
Personnel, Training, & Labor Relations Mgrs.	2	2	0	0	0
Purchasing Managers	1	1	0	0	0
Administrative Services Managers	1	1	0	0	0
Medicine & Health Services Managers	12	15	3	2	5
Food Service & Lodging Managers	5	6	1	1	2
General Managers & Top Executives	39	48	9	5	14
All Other Managers & Administrators	4	5	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	518	631	113	110	223
Accountants & Auditors	3	4	1	0	1
Purchasing Agents, Exc. Wholesale, Retail, & Farm	3	4	1	0	1
Personnel, Training, & Labor Rel. Specialists	2	2	0	0	0
Compliance & Enforcement Inspectors, Exc. Const.	1	1	0	0	0
All Other Management Support Workers	1	1	0	0	0
Civil Engineers, Incl. Traffic	4	5	1	0	1
Mechanical Engineers	1	1	0	0	0
Civil Engineering Technicians & Technologists	3	4	1	0	1
Drafters	1	1	0	0	0
All Other Engineering & Related Technicians	3	4	1	0	1
Social Workers, Medical & Psychiatric	10	12	2	2	4
Social Service Technicians	1	1	0	0	0
Nursing Instructors	2	2	0	0	0
All Other Teachers & Instructors	2	2	0	0	0
Physicians & Surgeons	22	27	5	3	8
Dentists	6	7	1	0	1
Optometrists	2	2	0	0	0
Respiratory Therapists	3	3	0	0	0
Physical Therapists	3	3	0	0	0
Recreational Therapists	2	2	0	0	0
Registered Nurses	297	366	69	70	139
Licensed Practical Nurses	53	65	12	15	27
Emergency Medical Technicians	2	2	0	0	0
Physician Assistants	6	7	1	1	2
Pharmacists	15	18	3	3	6
Dietitians & Nutritionists	4	5	1	1	2
Medical & Clinical Laboratory Technologists	22	27	5	5	10
Medical & Clinical Laboratory Technicians	5	6	1	1	2
Dental Hygienists	1	1	0	0	0
Medical Records Technicians & Technologists	12	15	3	4	7
Radiologic Technologists	18	22	4	4	8
Radiologic Technicians	1	1	0	0	0
Surgical Technicians	5	6	1	1	2
All Other Health Professionals, Paraprofessionals, & Technicians	2	2	0	0	0
SALES & RELATED OCCUPATIONS	2	2	0	0	0
Cashiers	2	2	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	114	138	24	28	52
First Line Supers.-Clerical & Admin. Support	2	2	0	0	0
Library Assistants & Bookmobile Drivers	1	1	0	0	0
Medical Secretaries	12	15	3	4	7
All Other Secretaries	3	4	1	1	2
Stenographers	1	1	0	0	0
Receptionists & Information Clerks	4	5	1	1	2
Typists	20	25	5	6	11
Personnel Clerks, Exc. Payroll & Timekeeping	3	4	1	1	2
File Clerks	2	2	0	1	1
Procurement Clerks	2	2	0	0	0
Statistical Clerks	1	1	0	0	0
Bookkeeping, Accounting, & Auditing Clerks	4	5	1	1	2

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

COCONINO COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Due to Separations 1983-1987	Total Job Openings 1983-1987
Payroll & Timekeeping Clerks	1	1	0	0	0
Billing, Cost, & Rate Clerks	5	6	1	1	2
General Office Clerks	35	43	8	9	17
Billing, Posting, & Calculating Machine Opers.	2	2	0	0	0
Data Entry Keyers, Exc. Composing	2	2	0	0	0
Switchboard Operators	9	11	2	3	5
Stock Clerks - Stockroom, Warehouse, or Yard	3	4	1	0	1
Traffic, Shipping, & Receiving Clerks	2	2	0	0	0
SERVICE OCCUPATIONS	218	267	49	49	98
Housekeepers	4	5	1	1	2
All Service Supervisors & Managers	1	1	0	0	0
Guards & Watch Guards	7	9	2	0	2
Food Servers, Outside	9	11	2	1	3
Cooks, Institution or Cafeteria	8	9	1	1	2
Cooks, Short Order	3	4	1	0	1
Food Preparation Workers	19	23	4	4	8
Dental Assistants	9	11	2	3	5
Medical Assistants	4	5	1	1	2
Nursing Aides, Orderlies, & Attendants	94	116	22	23	45
Physical & Corrective Therapy Assists./Aides	2	2	0	0	0
Pharmacy Assistants	1	1	0	0	0
Maids & Housekeeping Cleaners	45	55	10	13	23
Janitors & Cleaners, Exc. Maids & Housekeeping	12	15	3	2	5
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	26	32	6	0	6
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	3	4	1	0	1
Machinery Maintenance Mechanics	3	4	1	0	1
Maintenance Repairers, General Utility	5	6	1	0	1
Electromedical & Biomedical Equip. Repairers	2	2	0	0	0
Electricians	1	1	0	0	0
Painters & Paperhangers - Construction & Maintenance	1	1	0	0	0
Plumbers, Pipefitters, & Seamfitters	1	1	0	0	0
Laundry/Drycleaning Mach. Opers., Exc. Pressing	3	4	1	0	1
All Transportation & Related Workers	4	5	1	0	1
Helpers, Laborers, & Material Movers, Hand	3	4	1	0	1
TOTAL ALL OCCUPATIONS	944	1,150	206	195	401

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

GILA COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	14	17	3	2	5
Financial Managers	1	1	0	0	0
Administrative Services Managers	1	1	0	0	0
Medicine & Health Services Managers	9	11	2	2	4
General Managers & Top Executives	3	4	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	256	313	57	54	111
Purchasing Agents, Exc. Wholesale, Retail, & Farm	2	2	0	0	0
All Engineers	1	1	0	0	0
Psychologists	1	1	0	0	0
Social Workers, Medical & Psychiatric	2	2	0	0	0
Social Workers, Exc. Medical & Psychiatric	2	2	0	0	0
Social Service Technicians	3	4	1	0	1
All Teachers & Instructors	1	1	0	0	0
Librarians, Professional	2	2	0	0	0
Physicians & Surgeons	10	12	2	1	3
Dentists	2	2	0	0	0
Respiratory Therapists	8	10	2	1	3
Physical Therapists	3	4	1	0	1
Registered Nurses	112	138	26	27	53
Licensed Practical Nurses	50	62	12	14	26
Physician Assistants	1	1	0	0	0
Pharmacists	10	12	2	2	4
Dietitians & Nutritionists	1	1	0	0	0
Medical & Clinical Laboratory Technologists	11	14	3	2	5
Medical & Clinical Laboratory Technicians	11	14	3	2	5
Dental Hygienists	3	4	1	1	2
Medical Records Technicians & Technologists	6	7	1	2	3
Radiologic Technologists	3	4	1	1	2
Radiologic Technicians	5	6	1	1	2
Electrocardiograph Techs.	1	1	0	0	0
Surgical Technicians	2	2	0	0	0
All Other Health Professionals, Paraprofessionals, & Technicians	3	4	1	0	1
SALES & RELATED OCCUPATIONS	1	1	0	0	0
Cashiers	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	78	94	16	17	33
Medical Secretaries	3	4	1	1	2
Stenographers	3	4	1	1	2
Receptionists & Information Clerks	3	4	1	1	2
Typists	6	7	1	2	3
Personnel Clerks, Exc. Payroll & Timekeeping	1	1	0	0	0
File Clerks	2	2	0	1	1
Procurement Clerks	2	2	0	0	0
Interviewing Clerks, Exc. Personnel & Welfare	6	7	1	1	2
Bookkeeping, Accounting, & Auditing Clerks	4	5	1	1	2
Payroll & Timekeeping Clerks	2	2	0	0	0
Billing, Cost, & Rate Clerks	7	9	2	2	4
General Office Clerks	7	9	2	2	4
Computer Operators, Exc. Peripheral Equipment	5	6	1	1	2
Data Entry Keyers, Exc. Composing	1	1	0	0	0
Switchboard Operators	6	7	1	2	3
Stock Clerks - Stockroom, Warehouse, or Yard	5	6	1	0	1
Traffic, Shipping, & Receiving Clerks	2	2	0	0	0
All Other Material Recording/Scheduling/Dist.	4	5	1	0	1
All Other Clerical & Administrative Support	9	11	2	2	4
SERVICE OCCUPATIONS	199	245	46	48	94
Housekeepers	3	4	1	1	2
All Service Supervisors & Managers	4	5	1	1	2
Guards & Watch Guards	2	2	0	0	0

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

GILA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Cooks, Institution or Cafeteria	14	17	3	2	5
Food Preparation Workers	24	30	6	5	11
All Other Food Service Workers	4	5	1	1	2
Dental Assistants	1	1	0	0	0
Nursing Aides, Orderlies, & Attendants	97	120	23	25	48
Physical & Corrective Therapy Assists./Aides	6	7	1	1	2
Pharmacy Assistants	4	5	1	1	2
Maids & Housekeeping Cleaners	34	42	8	10	18
Janitors & Cleaners, Exc. Maids & Housekeeping	6	7	1	1	2
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	1	1	0	0	0
Gardeners & Groundskeepers, Exc. Farm	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	31	38	7	3	10
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
Maintenance Repairers, General Utility	17	21	4	1	5
All Construction Trades Workers	1	1	0	0	0
Pressing Machine Opers. - Textile & Garments	11	14	3	2	5
All Motor Vehicle Operators	1	1	0	0	0
TOTAL ALL OCCUPATIONS	580	709	129	124	253

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

GRAHAM COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	3	3	0	0	0
Medicine & Health Services Managers	2	2	0	0	0
General Managers & Top Executives	1	1	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	63	76	13	15	28
Purchasing Agents, Exc. Wholesale, Retail, & Farm	1	1	0	0	0
Registered Nurses	36	44	8	9	17
Licensed Practical Nurses	9	11	2	3	5
Emergency Medical Technicians	5	6	1	1	2
Physician Assistants	1	1	0	0	0
Medical & Clinical Laboratory Technologists	5	6	1	1	2
Medical Records Technicians & Technologists	1	1	0	0	0
Radiologic Technologists	4	5	1	1	2
Surgical Technicians	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	21	24	3	3	6
First Line Supers.-Clerical & Admin. Support	2	2	0	0	0
Typists	1	1	0	0	0
Personnel Clerks, Exc. Payroll & Timekeeping	1	1	0	0	0
File Clerks	3	4	1	1	2
Bookkeeping, Accounting, & Auditing Clerks	2	2	0	0	0
Payroll & Timekeeping Clerks	1	1	0	0	0
General Office Clerks	8	10	2	2	4
Data Entry Keyers, Exc. Composing	1	1	0	0	0
Switchboard Operators	1	1	0	0	0
All Other Clerical & Administrative Support	1	1	0	0	0
SERVICE OCCUPATIONS	48	58	10	9	19
Housekeepers	1	1	0	0	0
All Service Supervisors & Managers	1	1	0	0	0
Dining Room/Cafeteria Attdts. & Bartdr. Helpers	5	6	1	0	1
Cooks, Institution or Cafeteria	3	4	1	0	1
Nursing Aides, Orderlies, & Attendants	23	28	5	5	10
Pharmacy Assistants	2	2	0	0	0
Maids & Housekeeping Cleaners	13	16	3	4	7
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1	1	0	0	0
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
TOTAL ALL OCCUPATIONS	136	162	26	27	53

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

GREENLEE COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	4	5	1	0	1
Medicine & Health Services Managers	3	4	1	0	1
General Managers & Top Executives	1	1	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	43	51	8	8	16
Accountants & Auditors	1	1	0	0	0
Physicians & Surgeons	6	7	1	1	2
Registered Nurses	23	28	5	5	10
Pharmacists	1	1	0	0	0
Medical & Clinical Laboratory Technicians	6	7	1	1	2
Radiologic Technicians	4	5	1	1	2
All Other Health Professionals, Paraprofessionals, & Technicians	2	2	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	16	18	2	4	6
Medical Secretaries	1	1	0	0	0
Receptionists & Information Clerks	1	1	0	0	0
Typists	2	2	0	1	1
Billing, Cost, & Rate Clerks	5	6	1	1	2
General Office Clerks	4	5	1	1	2
Switchboard Operators	2	2	0	1	1
All Other Clerical & Administrative Support	1	1	0	0	0
SERVICE OCCUPATIONS	27	33	6	7	13
Housekeepers	1	1	0	0	0
Food Preparation Workers	4	5	1	1	2
Nursing Aides, Orderlies, & Attendants	14	17	3	4	7
Maids & Housekeeping Cleaners	4	5	1	1	2
Janitors & Cleaners, Exc. Maids & Housekeeping	4	5	1	1	2
TOTAL ALL OCCUPATIONS	90	107	17	19	36

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

LA PAZ COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	8	9	1	1	2
Financial Managers	1	1	0	0	0
Administrative Services Managers	1	1	0	0	0
Medicine & Health Services Managers	4	5	1	1	2
General Managers & Top Executives	2	2	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	71	86	15	13	28
All Management Support Workers	3	4	1	0	1
Social Workers, Medical & Psychiatric	1	1	0	0	0
Nursing Instructors	1	1	0	0	0
Physicians & Surgeons	4	5	1	0	1
Dentists	1	1	0	0	0
Respiratory Therapists	2	2	0	0	0
Physical Therapists	1	1	0	0	0
Registered Nurses	29	36	7	7	14
Licensed Practical Nurses	11	14	3	3	6
Pharmacists	1	1	0	0	0
Dietitians & Nutritionists	1	1	0	0	0
Dietetic Technicians	2	2	0	0	0
Medical & Clinical Laboratory Technologists	3	4	1	1	2
Medical & Clinical Laboratory Technicians	2	2	0	0	0
Medical Records Technicians & Technologists	3	4	1	1	2
Radiologic Technicians	5	6	1	1	2
Surgical Technicians	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	22	25	3	5	8
First Line Supers.-Clerical & Admin. Support	1	1	0	0	0
Secretaries	2	2	0	1	1
Typists	2	2	0	1	1
Personnel Clerks, Exc. Payroll & Timekeeping	1	1	0	0	0
Interviewing Clerks, Exc. Personnel & Welfare	1	1	0	0	0
Bookkeeping, Accounting, & Auditing Clerks	6	7	1	1	2
Billing, Cost, & Rate Clerks	1	1	0	0	0
Computer Operators, Exc. Peripheral Equipment	1	1	0	0	0
Data Entry Keyers, Exc. Composing	1	1	0	0	0
Switchboard Operators	3	4	1	1	2
All Other Clerical & Administrative Support	3	4	1	1	2
SERVICE OCCUPATIONS	36	44	8	7	15
Cooks, Institution or Cafeteria	3	4	1	0	1
Food Preparation Workers	3	4	1	1	2
All Other Food Service Workers	2	2	0	0	0
Dental Assistants	1	1	0	0	0
Nursing Aides, Orderlies, & Attendants	17	21	4	4	8
Physical & Corrective Therapy Assists./Aides	1	1	0	0	0
Maids & Housekeeping Cleaners	7	9	2	2	4
Janitors & Cleaners, Exc. Maids & Housekeeping	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	8	9	1	0	1
All First Line Managers/Supervisors - Maintenance/Production/Construction	1	1	0	0	0
Maintenance Repairers, General Utility	5	6	1	0	1
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1	1	0	0	0
All Motor Vehicle Operators	1	1	0	0	0
TOTAL ALL OCCUPATIONS	145	173	28	26	54

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

MARICOPA COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	1,150	1,430	280	178	458
Financial Managers	68	85	17	11	28
Personnel, Training, & Labor Relations Mgrs.	43	53	10	7	17
Purchasing Managers	26	32	6	3	9
Marketing, Advertising, & Public Rel. Mgrs.	34	42	8	4	12
Administrative Services Managers	41	51	10	6	16
Medicine & Health Services Managers	592	736	144	103	247
Food Service & Lodging Managers	19	24	5	3	8
General Managers & Top Executives	147	183	36	19	55
All Other Managers & Administrators	180	224	44	22	66
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	15,985	19,884	3,899	3,522	7,421
Accountants & Auditors	66	82	16	10	26
Budget Analysts	22	27	5	3	8
All Other Financial Specialists	15	19	4	2	6
Purchasing Agents, Exc. Wholesale, Retail, & Farm	39	49	10	4	14
Personnel, Training, & Labor Rel. Specialists	68	85	17	7	24
Compliance & Enforcement Inspectors, Exc. Const.	33	41	8	4	12
All Other Management Support Workers	119	148	29	15	44
Civil Engineers, Incl. Traffic	60	75	15	6	21
Electrical & Electronic Engineers	4	5	1	0	1
Industrial Engineers, Exc. Safety	10	12	2	1	3
Mechanical Engineers	11	14	3	0	3
All Other Engineers	8	10	2	0	2
Civil Engineering Technicians & Technologists	5	6	1	0	1
Electrical/Electronic Engineering Technicians	19	24	5	1	6
Industrial Engineering Techs.	6	7	1	0	1
Mechanical Engineering Techs.	7	9	2	0	2
Drafters	2	2	0	0	0
All Other Engineering & Related Technicians	5	6	1	0	1
All Physical Scientists	16	20	4	1	5
Biological Scientists	22	27	5	3	8
Medical Scientists	26	32	6	3	9
Biological, Agri., & Food Techs., Exc. Health	1	1	0	0	0
Chemical Techs., Exc. Health	10	12	2	1	3
Systems Analysts, Electronic Data Processing	29	36	7	1	8
Computer Programmers	13	16	3	1	4
Computer Programmer Aides	1	1	0	0	0
Statisticians	6	7	1	1	2
Mathematical Technicians	1	1	0	0	0
Psychologists	65	81	16	6	22
All Other Social Scientists	5	6	1	0	1
Social Workers, Medical & Psychiatric	320	398	78	66	144
Social Workers, Exc. Medical & Psychiatric	31	39	8	6	14
Social Service Technicians	102	127	25	13	38
Clergy	28	35	7	4	11
Nursing Instructors	112	139	27	13	40
Teachers & Instructors, Voc. Ed. & Training	28	35	7	4	11
All Other Teachers & Instructors	31	39	8	7	15
Librarians, Professional	8	10	2	2	4
Technical Assistants, Library	8	10	2	2	4
Physicians & Surgeons	767	954	187	95	282
Dentists	32	40	8	3	11
Optometrists	5	6	1	1	2
Podiatrists	5	6	1	1	2
All Other Health Diagnosing/Treating Practitioners	4	5	1	1	2
Respiratory Therapists	410	510	100	74	174
Occupational Therapists	90	112	22	16	38
Physical Therapists	169	210	41	30	71
Corrective & Manual Arts Therapists	9	11	2	2	4
Speech Pathologists & Audiologists	35	44	9	6	15
Recreational Therapists	22	27	5	4	9

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

MARICOPA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
All Other Therapists	5	6	1	1	2
Registered Nurses	7,604	9,459	1,855	1,873	3,728
Licensed Practical Nurses	1,814	2,257	443	521	964
Emergency Medical Technicians	81	101	20	12	32
Physician Assistants	32	40	8	8	16
Opticians, Dispensing & Measuring	1	1	0	0	0
Pharmacists	264	328	64	49	113
Dietitians & Nutritionists	100	124	24	25	49
Dietetic Technicians	91	113	22	23	45
Medical & Clinical Laboratory Technologists	530	659	129	118	247
Medical & Clinical Laboratory Technicians	422	525	103	71	174
Dental Hygienists	21	26	5	6	11
Medical Records Technicians & Technologists	212	264	52	70	122
Nuclear Medicine Technologists	105	131	26	21	47
Radiologic Technologists	347	432	85	70	155
Radiologic Technicians	185	230	45	37	82
Electroencephalograph Techs.	34	42	8	6	14
Electrocardiograph Techs.	114	142	28	19	47
Surgical Technicians	375	467	92	63	155
All Other Health Professionals, Paraprofessionals, & Technicians	625	778	153	95	248
Public Rel. Specialists & Publicity Writers	24	30	6	4	10
Photographers	17	21	4	2	6
All Other Professional, Paraprofessional, & Technical Workers	72	90	18	8	26
SALES & RELATED OCCUPATIONS	69	86	17	16	33
Cashiers	61	76	15	15	30
All Other Sales & Related Workers	8	10	2	1	3
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	5,173	6,435	1,262	1,232	2,494
First Line Supers.-Clerical & Admin. Support	183	228	45	26	71
Library Assistants & Bookmobile Drivers	14	17	3	1	4
Medical Secretaries	376	468	92	107	199
Secretaries	663	825	162	189	351
Stenographers	54	67	13	14	27
Receptionists & Information Clerks	92	114	22	23	45
Typists	387	481	94	120	214
Typists, Word Processing Equipment	68	85	17	11	28
Personnel Clerks, Exc. Payroll & Timekeeping	66	82	16	21	37
File Clerks	111	138	27	36	63
Order Clerks - Materials, Merch., & Service	25	31	6	6	12
Procurement Clerks	46	57	11	5	16
Statistical Clerks	169	210	41	42	83
Interviewing Clerks, Exc. Personnel & Welfare	517	643	126	107	233
Bookkeeping, Accounting, & Auditing Clerks	234	291	57	55	112
Payroll & Timekeeping Clerks	31	39	8	7	15
Billing, Cost, & Rate Clerks	383	476	93	95	188
General Office Clerks	533	663	130	133	263
Billing, Posting, & Calculating Machine Opers.	17	21	4	4	8
Computer Operators, Exc. Peripheral Equipment	62	77	15	7	22
Peripheral EDP Equipment Operators	15	19	4	4	8
Data Entry Keyers, Exc. Composing	141	175	34	18	52
All Other Office Machine Operators	12	15	3	4	7
Switchboard Operators	147	183	36	48	84
Dispatchers - Police, Fire, & Ambulance	36	45	9	5	14
Stock Clerks - Stockroom, Warehouse, or Yard	204	254	50	22	72
Traffic, Shipping, & Receiving Clerks	57	71	14	6	20
All Other Material Recording/Scheduling/Dist.	35	44	9	5	14
All Other Clerical & Administrative Support	495	616	121	111	232
SERVICE OCCUPATIONS	5,744	7,145	1,401	1,287	2,688
Housekeepers	98	122	24	19	43
All Service Supervisors & Managers	114	142	28	26	54

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

MARICOPA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Guards & Watch Guards	186	231	45	8	53
Food Servers, Outside	305	379	74	43	117
Dining Room/Cafeteria Attdts. & Bartdr. Helpers	15	19	4	1	5
Counter Attendants - Lunchroom, Coffee Shop, & Cafeteria	48	60	12	12	24
Bakers, Bread & Pastry	7	9	2	1	3
Cooks, Institution or Cafeteria	168	209	41	29	70
Cooks, Short Order	22	27	5	3	8
Food Preparation Workers	367	457	90	77	167
All Other Food Service Workers	191	238	47	40	87
Dental Assistants	87	108	21	29	50
Medical Assistants	251	312	61	64	125
Nursing Aides, Orderlies, & Attendants	1,725	2,146	421	426	847
Home Health Aides	41	51	10	6	16
Psychiatric Aides	165	205	40	41	81
Physical & Corrective Therapy Assists./Aides	197	245	48	50	98
Occupational Therapy Assistants & Aides	199	248	49	51	100
Ambulance Drivers & Attendants - Exc. Emergency Medical Technicians	27	34	7	3	10
Pharmacy Assistants	172	214	42	44	86
All Other Health Service Workers	215	267	52	22	74
Maids & Housekeeping Cleaners	809	1,006	197	233	430
Janitors & Cleaners, Exc. Maids & Housekeeping	197	245	48	31	79
Elevator Operators	1	1	0	0	0
All Other Cleaning/Building Service, Exc. Private House	67	83	16	10	26
Barbers	3	4	1	0	1
Hairdressers, Hairstylists, & Cosmetologists	5	6	1	1	2
Social Welfare Service Aides	3	4	1	1	2
Child Care Workers	26	32	6	8	14
All Other Service Workers	33	41	8	8	16
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	39	49	10	6	16
Gardeners & Groundskeepers, Exc. Farm	39	49	10	6	16
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	849	1,055	206	74	280
First Line Managers/Supervisors - Mechanics/Installers/Repairers	30	37	7	4	11
First Line Managers/Supervisors - Construction Trades & Extraction Workers	17	21	4	3	7
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	43	53	10	7	17
Inspectors & Related Occupations	2	2	0	0	0
Machinery Maintenance Mechanics	29	36	7	2	9
Maintenance Repairers, General Utility	180	224	44	13	57
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	70	87	17	5	22
Electromedical & Biomedical Equip. Repairers	48	60	12	3	15
Menders - Garments, Linens, & Related	10	12	2	1	3
All Other Mechanics, Installers, & Repairers	19	24	5	1	6
Carpenters	32	40	8	3	11
Electricians	35	44	9	3	12
Painters & Paperhangers - Construction & Maintenance	30	37	7	3	10
Plumbers, Pipefitters, & Steamfitters	19	24	5	1	6
All Other Construction Trades Workers	20	25	5	1	6
Precision Dental Laboratory Technicians	4	5	1	0	1
All Other Precision Workers	4	5	1	0	1
Sewing Machine Operators, Non-Garment	9	11	2	1	3
Laundry/Drycleaning Mach. Opers., Exc. Pressing	60	75	15	8	23
Pressing Machine Opers. - Textile & Garments	2	2	0	0	0
Boiler Operators & Tenders, Low Pressure	5	6	1	0	1
All Machine Setters & Set-Up Operators	16	20	4	2	6
All Other Machine Operators & Tenders	5	6	1	0	1

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

MARICOPA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Sewers, Hand	1	1	0	0	0
All Other Hand Workers	10	12	2	1	3
Stationary Engineers	52	65	13	6	19
All Other Plant & System Operators	5	6	1	0	1
Truck Drivers, Light - Incl. Delivery & Route	16	20	4	1	5
All Other Motor Vehicle Operators	7	9	2	0	2
All Other Transportation & Related Workers	14	17	3	1	4
Industrial Truck & Tractor Operators	7	9	2	0	2
Helpers, Laborers, & Material Movers, Hand	48	60	12	4	16
TOTAL ALL OCCUPATIONS	29,009	36,084	7,075	6,315	13,390

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

MOHAVE COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	16	18	2	1	3
Financial Managers	1	1	0	0	0
Personnel, Training, & Labor Relations Mgrs.	1	1	0	0	0
Purchasing Managers	2	2	0	0	0
Marketing, Advertising, & Public Rel. Mgrs.	1	1	0	0	0
Medicine & Health Services Managers	5	6	1	1	2
Food Service & Lodging Managers	1	1	0	0	0
General Managers & Top Executives	4	5	1	0	1
All Other Managers & Administrators	1	1	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	211	258	47	47	94
Accountants & Auditors	1	1	0	0	0
All Other Management Support Workers	1	1	0	0	0
Social Workers, Medical & Psychiatric	2	2	0	0	0
Physicians & Surgeons	2	2	0	0	0
Respiratory Therapists	7	9	2	1	3
Occupational Therapists	1	1	0	0	0
Physical Therapists	3	4	1	0	1
Speech Pathologists & Audiologists	1	1	0	0	0
Registered Nurses	85	105	20	21	41
Licensed Practical Nurses	53	65	12	15	27
Physician Assistants	1	1	0	0	0
Pharmacists	2	2	0	0	0
Dietitians & Nutritionists	1	1	0	0	0
Medical & Clinical Laboratory Technologists	15	18	3	3	6
Medical & Clinical Laboratory Technicians	7	9	2	1	3
Medical Records Technicians & Technologists	6	7	1	2	3
Radiologic Technicians	12	15	3	2	5
Surgical Technicians	4	5	1	1	2
All Other Health Professionals, Paraprofessionals, & Technicians	7	9	2	1	3
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	93	113	20	20	40
First Line Supers.-Clerical & Admin. Support	2	2	0	0	0
Medical Secretaries	1	1	0	0	0
All Other Secretaries	9	11	2	3	5
Typists	11	14	3	4	7
Personnel Clerks, Exc. Payroll & Timekeeping	1	1	0	0	0
Statistical Clerks	1	1	0	0	0
Interviewing Clerks, Exc. Personnel & Welfare	10	12	2	2	4
Bookkeeping, Accounting, & Auditing Clerks	11	14	3	3	6
Payroll & Timekeeping Clerks	1	1	0	0	0
Billing, Cost, & Rate Clerks	9	11	2	2	4
General Office Clerks	15	18	3	4	7
Computer Operators, Exc. Peripheral Equipment	3	4	1	0	1
Data Entry Keyers, Exc. Composing	3	4	1	0	1
All Other Office Machine Operators	1	1	0	0	0
Switchboard Operators	1	1	0	0	0
Stock Clerks - Stockroom, Warehouse, or Yard	4	5	1	0	1
Traffic, Shipping, & Receiving Clerks	1	1	0	0	0
All Other Clerical & Administrative Support	9	11	2	2	4
SERVICE OCCUPATIONS	144	177	33	31	64
Housekeepers	2	2	0	0	0
All Service Supervisors & Managers	1	1	0	0	0
Food Servers, Outside	11	14	3	1	4
Cooks, Institution or Cafeteria	9	11	2	2	4
Food Preparation Workers	9	11	2	2	4
All Other Food Service Workers	15	18	3	3	6
Nursing Aides, Orderlies, & Attendants	67	83	16	16	32
Physical & Corrective Therapy Assists./Aides	2	2	0	0	0
All Other Health Service Workers	3	4	1	0	1
Maids & Housekeeping Cleaners	20	25	5	6	11
Janitors & Cleaners, Exc. Maids & Housekeeping	5	6	1	1	2

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

MOHAVE COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	28	35	7	2	9
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
Maintenance Repairers, General Utility	12	15	3	1	4
Laundry/Drycleaning Mach. Opers., Exc. Pressing	11	14	3	1	4
Boiler Operators & Tenders, Low Pressure	4	5	1	0	1
TOTAL ALL OCCUPATIONS	492	601	109	101	210

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

NAVAJO COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Opening Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	30	37	7	3	10
Financial Managers	3	4	1	0	1
Purchasing Managers	2	2	0	0	0
Administrative Services Managers	3	4	1	0	1
Medicine & Health Services Managers	17	21	4	3	7
General Managers & Top Executives	4	5	1	0	1
All Other Managers & Administrators	1	1	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	335	412	77	71	148
Budget Analysts	2	2	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	2	2	0	0	0
Psychologists	1	1	0	0	0
Social Workers, Medical & Psychiatric	5	6	1	1	2
Social Service Technicians	3	4	1	0	1
Nursing Instructors	1	1	0	0	0
Teachers & Instructors, Voc. Ed. & Training	1	1	0	0	0
Physicians & Surgeons	21	26	5	3	8
Dentists	6	7	1	0	1
Respiratory Therapists	3	4	1	0	1
Physical Therapists	3	4	1	0	1
Registered Nurses	141	174	33	34	67
Licensed Practical Nurses	53	65	12	15	27
Physician Assistants	3	4	1	1	2
Pharmacists	14	17	3	2	5
Dietitians & Nutritionists	5	6	1	1	2
Dietetic Technicians	1	1	0	0	0
Medical & Clinical Laboratory Technologists	17	21	4	4	8
Medical & Clinical Laboratory Technicians	8	10	2	1	3
Dental Hygienists	3	4	1	1	2
Medical Records Technicians & Technologists	16	20	4	5	9
Radiologic Technologists	1	1	0	0	0
Radiologic Technicians	12	15	3	2	5
Surgical Technicians	3	4	1	0	1
All Other Health Professionals, Paraprofessionals, & Technicians	10	12	2	1	3
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	91	110	19	19	38
First Line Supers.-Clerical & Admin. Support	4	5	1	1	2
Medical Secretaries	2	2	0	1	1
All Other Secretaries	8	10	2	2	4
Typists	8	10	2	2	4
File Clerks	1	1	0	0	0
Order Clerks - Materials, Merch., & Service	3	4	1	1	2
Procurement Clerks	1	1	0	0	0
Interviewing Clerks, Exc. Personnel & Welfare	12	15	3	2	5
Bookkeeping, Accounting, & Auditing Clerks	2	2	0	0	0
Payroll & Timekeeping Clerks	1	1	0	0	0
Billing, Cost, & Rate Clerks	12	15	3	3	6
General Office Clerks	5	6	1	1	2
Computer Operators, Exc. Peripheral Equipment	2	2	0	0	0
Data Entry Keyers, Exc. Composing	1	1	0	0	0
Switchboard Operators	6	7	1	2	3
Stock Clerks - Stockroom, Warehouse, or Yard	4	5	1	0	1
All Other Clerical & Administrative Support	19	23	4	4	8
SERVICE OCCUPATIONS	115	142	27	26	53
Housekeepers	3	4	1	1	2
All Service Supervisors & Managers	3	4	1	1	2
Cooks, Institution or Cafeteria	19	23	4	3	7
Food Preparation Workers	11	14	3	2	5
Dental Assistants	8	10	2	3	5
Nursing Aides, Orderlies, & Attendants	38	47	9	9	18
Physical & Corrective Therapy Assists./Aides	2	2	0	0	0

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

NAVAJO COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Pharmacy Assistants	2	2	0	0	0
Maids & Housekeeping Cleaners	20	25	5	6	11
Janitors & Cleaners, Exc. Maids & Housekeeping	9	11	2	1	3
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	42	50	8	1	9
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	2	2	0	0	0
Maintenance Repairers, General Utility	21	26	5	1	6
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1	1	0	0	0
Electromedical & Biomedical Equip. Repairers	1	1	0	0	0
Electricians	1	1	0	0	0
Sewers, Hand	1	1	0	0	0
Truck Drivers, Light - Incl. Delivery & Route	9	11	2	0	2
Helpers, Laborers, & Material Movers, Hand	5	6	1	0	1
TOTAL ALL OCCUPATIONS	613	751	138	120	258

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

PIMA COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	476	548	72	65	137
Financial Managers	19	22	3	3	6
Personnel, Training, & Labor Relations Mgrs.	22	25	3	3	6
Purchasing Managers	11	13	2	1	3
Marketing, Advertising, & Public Rel. Mgrs.	9	10	1	1	2
Administrative Services Managers	12	14	2	2	4
Medicine & Health Services Managers	123	142	19	21	40
Food Service & Lodging Managers	18	21	3	3	6
General Managers & Top Executives	102	117	15	12	27
All Other Managers & Administrators	160	184	24	19	43
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	5,574	6,412	838	1,190	2,028
Accountants & Auditors	7	8	1	1	2
Budget Analysts	9	10	1	1	2
Purchasing Agents, Exc. Wholesale, Retail, & Farm	9	10	1	1	2
Personnel, Training, & Labor Rel. Specialists	22	25	3	2	5
All Other Management Support Workers	25	29	4	3	7
Electrical & Electronic Engineers	1	1	0	0	0
Mechanical Engineers	1	1	0	0	0
All Other Engineers	1	1	0	0	0
Civil Engineering technicians and Technologists	1	1	0	0	0
Electrical/Electronic Engineering Technicians	2	2	0	0	0
Drafters	1	1	0	0	0
All Other Engineering & Related Technicians	2	2	0	0	0
Chemists, Exc. Biochemists	1	1	0	0	0
Biological Scientists	18	21	3	2	5
Medical Scientists	15	17	2	2	4
Biological, Agri., & Food Techs., Exc. Health	10	12	2	1	3
All Other Physical & Life Science Techs.	1	1	0	0	0
Systems Analysts, Electronic Data Processing	2	2	0	0	0
Computer Programmers	17	20	3	1	4
Computer Programmer Aides	2	2	0	0	0
Psychologists	2	2	0	0	0
Social Workers, Medical & Psychiatric	101	116	15	20	35
Social Workers, Exc. Medical & Psychiatric	5	6	1	1	2
Social Service Technicians	22	25	3	3	6
Clergy	14	16	2	2	4
Nursing Instructors	24	28	4	3	7
All Other Teachers & Instructors	2	2	0	0	0
Librarians, Professional	7	8	1	2	3
Technical Assistants, Library	2	2	0	0	0
Physicians & Surgeons	409	471	62	49	111
Dentists	2	2	0	0	0
Optometrists	1	1	0	0	0
Podiatrists	1	1	0	0	0
Respiratory Therapists	168	193	25	29	54
Occupational Therapists	18	21	3	3	6
Physical Therapists	74	85	11	13	24
Corrective & Manual Arts Therapists	2	2	0	0	0
Speech Pathologists & Audiologists	13	15	2	2	4
Recreational Therapists	6	7	1	1	2
Registered Nurses	2,892	3,329	437	683	1,120
Licensed Practical Nurses	635	731	96	175	271
Emergency Medical Technicians	5	6	1	1	2
Physician Assistants	9	10	1	2	3
Pharmacists	129	148	19	23	42
Dietitians & Nutritionists	38	44	6	9	15
Dietetic Technicians	23	26	3	5	8
Medical & Clinical Laboratory Technologists	303	349	46	64	110
Medical & Clinical Laboratory Technicians	71	82	11	11	22
Dental Hygienists	1	1	0	0	0
Medical Records Technicians & Technologists	43	49	6	14	20
Nuclear Medicine Technologists	19	22	3	4	7

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

PIMA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Radiologic Technologists	156	180	24	30	54
Radiologic Technicians	15	17	2	3	5
Electroencephalograph Techs.	15	17	2	2	4
Electrocardiograph Techs.	37	43	6	6	12
Surgical Technicians	91	105	14	6	20
All Other Health Professionals, Paraprofessionals, & Technicians	47	54	7	7	14
Public Rel. Specialists & Publicity Writers	11	13	2	2	4
Photographers	5	6	1	0	1
All Other Professional, Paraprofessional, & Technical Workers	9	10	1	1	2
SALES & RELATED OCCUPATIONS	17	20	3	2	5
Cashiers	17	20	3	2	5
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	1,834	2,111	277	410	687
First Line Supers.-Clerical & Admin. Support	98	113	15	14	29
Medical Secretaries	83	96	13	23	36
All Other Secretaries	131	151	20	36	56
Stenographers	7	8	1	2	3
Receptionists & Information Clerks	35	40	5	8	13
Typists	139	160	21	41	62
Personnel Clerks, Exc. Payroll & Timekeeping	23	26	3	7	10
File Clerks	31	36	5	9	14
Order Clerks - Materials, Merch., & Service	13	15	2	3	5
Procurement Clerks	21	24	3	2	5
Statistical Clerks	65	75	10	16	26
Interviewing Clerks, Exc. Personnel & Welfare	124	143	19	23	42
Bookkeeping, Accounting, & Auditing Clerks	42	48	6	9	15
Payroll & Timekeeping Clerks	12	14	2	2	4
Billing, Cost, & Rate Clerks	82	94	12	19	31
General Office Clerks	400	460	60	95	155
Computer Operators, Exc. Peripheral Equipment	10	12	2	1	3
Peripheral EDP Equipment Operators	6	7	1	1	2
Data Entry Keyers, Exc. Composing	49	56	7	6	13
All Other Office Machine Operators	3	3	0	1	1
Switchboard Operators	77	89	12	24	36
Dispatchers - Police, Fire, & Ambulance	7	8	1	1	2
Stock Clerks - Stockroom, Warehouse, or Yard	109	125	16	11	27
Traffic, Shipping, & Receiving Clerks	10	12	2	1	3
All Other Material Recording/Scheduling/Dist.	1	1	0	0	0
All Other Clerical & Administrative Support	256	295	39	55	94
SERVICE OCCUPATIONS	2,252	2,594	342	498	840
Housekeepers	136	157	21	25	46
All Service Supervisors & Managers	44	51	7	10	17
Guards & Watch Guards	39	45	6	2	8
Waiters & Waitresses	4	5	1	1	2
Food Servers, Outside	81	93	12	11	23
Dining Room/Cafeteria Attdts. & Bartdr. Helpers	62	71	9	2	11
Counter Attendants - Lunchroom, Coffee Shop, & Cafeteria	10	12	2	2	4
Bakers, Bread & Pastry	8	9	1	1	2
Cooks, Institution or Cafeteria	77	89	12	13	25
Cooks, Short Order	1	1	0	0	0
Food Preparation Workers	162	186	24	33	57
All Other Food Service Workers	66	76	10	13	23
Dental Assistants	5	6	1	2	3
Medical Assistants	96	110	14	23	37
Nursing Aides, Orderlies, & Attendants	746	859	113	187	300
Psychiatric Aides	30	35	5	7	12
Physical & Corrective Therapy Assists./Aides	22	25	3	5	8
Occupational Therapy Assistants & Aides	1	1	0	0	0
Ambulance Drivers & Attendants - Exc. Emergency Medical Technicians	10	12	2	1	3

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

PIMA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Pharmacy Assistants	74	85	11	18	29
All Other Health Service Workers	27	31	4	3	7
Maids & Housekeeping Cleaners	421	485	64	117	181
Janitors & Cleaners, Exc. Maids & Housekeeping	103	119	16	16	32
Barbers	1	1	0	0	0
All Other Service Workers	26	30	4	6	10
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	27	31	4	4	8
Gardeners & Groundskeepers, Exc. Farm	24	28	4	4	8
All Other Agri., Forestry, Fishing, & Related	3	3	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	331	379	48	27	75
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	16	18	2	2	4
First Line Managers/Supervisors - Construction Trades & Extraction Workers	9	10	1	1	2
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	5	6	1	1	2
Machinery Maintenance Mechanics	5	6	1	0	1
Maintenance Repairers, General Utility	39	45	6	3	9
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	27	31	4	2	6
Electromedical & Biomedical Equip. Repairers	8	9	1	0	1
All Other Mechanics, Installers, & Repairers	2	2	0	0	0
Carpenters	32	37	5	3	8
Electricians	26	30	4	2	6
Painters & Paperhangers - Construction & Maintenance	18	21	3	2	5
Plumbers, Pipefitters, & Steamfitters	20	23	3	1	4
All Other Construction Trades Workers	6	7	1	0	1
Machinists	3	3	0	0	0
Precision Dental Laboratory Technicians	2	2	0	0	0
Medical Appliance Makers	1	1	0	0	0
All Other Precision Workers	3	3	0	0	0
Sewing Machine Operators, Non-Garment	1	1	0	0	0
Laundry/Drycleaning Mach. Opers., Exc. Pressing	36	41	5	5	10
Boiler Operators & Tenders, Low Pressure	8	9	1	0	1
All Other Machine Operators & Tenders	1	1	0	0	0
Sewers, Hand	2	2	0	0	0
Stationary Engineers	30	35	5	3	8
Truck Drivers, Light - Incl. Delivery & Route	6	7	1	0	1
All Other Motor Vehicle Operators	10	12	2	1	3
Industrial Truck & Tractor Operators	1	1	0	0	0
Helpers, Laborers, & Material Movers, Hand	14	16	2	1	3
TOTAL ALL OCCUPATIONS	10,511	12,095	1,584	2,196	3,780

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

PINAL COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	30	36	6	3	9
Financial Managers	1	1	0	0	0
Personnel, Training, & Labor Relations Mgrs.	2	2	0	0	0
Purchasing Managers	1	1	0	0	0
Marketing, Advertising, & Public Rel. Mgrs.	1	1	0	0	0
Administrative Services Managers	8	10	2	1	3
Medicine & Health Services Managers	9	11	2	2	4
Food Service & Lodging Managers	1	1	0	0	0
General Managers & Top Executives	4	5	1	0	1
All Other Managers & Administrators	3	4	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	304	372	68	71	139
Budget Analysts	2	2	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	1	1	0	0	0
Personnel, Training, & Labor Rel. Specialists	1	1	0	0	0
Mechanical Engineers	1	1	0	0	0
Psychologists	1	1	0	0	0
Social Workers, Medical & Psychiatric	3	4	1	1	2
Physicians & Surgeons	12	15	3	1	4
Dentists	1	1	0	0	0
Recreational Therapists	1	1	0	0	0
Registered Nurses	157	193	36	38	74
Licensed Practical Nurses	56	69	13	16	29
Physician Assistants	1	1	0	0	0
Pharmacists	9	11	2	2	4
Dietitians & Nutritionists	3	4	1	1	2
Medical & Clinical Laboratory Technologists	19	23	4	4	8
Medical & Clinical Laboratory Technicians	17	21	4	3	7
Medical Records Technicians & Technologists	6	7	1	2	3
Radiologic Technologists	8	10	2	2	4
Radiologic Technicians	3	4	1	1	2
Surgical Technicians	1	1	0	0	0
All Other Health Professionals, Paraprofessionals, & Technicians	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	86	105	19	17	36
First Line Supers.-Clerical & Admin. Support	3	4	1	0	1
Medical Secretaries	1	1	0	0	0
All Other Secretaries	3	4	1	1	2
Stenographers	1	1	0	0	0
Receptionists & Information Clerks	3	4	1	1	2
Typists	9	11	2	2	4
Order Clerks - Materials, Merch., & Service	2	2	0	0	0
Bookkeeping, Accounting, & Auditing Clerks	15	18	3	3	6
Billing, Cost, & Rate Clerks	3	4	1	1	2
General Office Clerks	5	6	1	1	2
Data Entry Keyers, Exc. Composing	2	2	0	0	0
Switchboard Operators	3	4	1	1	2
Stock Clerks - Stockroom, Warehouse, or Yard	7	9	2	1	3
Traffic, Shipping, & Receiving Clerks	2	2	0	0	0
All Other Clerical & Administrative Support	27	33	6	6	12
SERVICE OCCUPATIONS	184	224	40	42	82
Housekeepers	2	2	0	0	0
All Service Supervisors & Managers	2	2	0	0	0
Food Servers, Outside	1	1	0	0	0
Cooks, Institution or Cafeteria	8	10	2	1	3
Food Preparation Workers	32	39	7	6	13
Dental Assistants	2	2	0	1	1
Medical Assistants	23	28	5	6	11
Nursing Aides, Orderlies, & Attendants	69	85	16	17	33
Physical & Corrective Therapy Assists./Aides	1	1	0	0	0
Pharmacy Assistants	8	10	2	2	4

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

PINAL COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Maids & Housekeeping Cleaners	30	37	7	8	15
Janitors & Cleaners, Exc. Maids & Housekeeping	6	7	1	1	2
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	1	1	0	0	0
Gardeners & Groundskeepers, Exc. Farm	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	12	14	2	0	2
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	1	1	0	0	0
Maintenance Repairers, General Utility	6	7	1	0	1
Stationary Engineers	4	5	1	0	1
TOTAL ALL OCCUPATIONS	617	752	135	133	268

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

SANTA CRUZ COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	3	3	0	0	0
Food Service & Lodging Managers	1	1	0	0	0
General Managers & Top Executives	2	2	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	98	117	19	21	40
Purchasing Agents, Exc. Wholesale, Retail, & Farm	1	1	0	0	0
Personnel, Training, & Labor Rel. Specialists	1	1	0	0	0
Compliance & Enforcement Inspectors, Exc. Const.	1	1	0	0	0
Social Workers, Medical & Psychiatric	1	1	0	0	0
Social Service Technicians	1	1	0	0	0
Clergy	1	1	0	0	0
Respiratory Therapists	1	1	0	0	0
Physical Therapists	1	1	0	0	0
Recreational Therapists	1	1	0	0	0
Registered Nurses	56	69	13	11	24
Licensed Practical Nurses	18	22	4	4	8
Emergency Medical Technicians	2	2	0	0	0
Pharmacists	1	1	0	0	0
Dietitians & Nutritionists	1	1	0	0	0
Medical & Clinical Laboratory Technologists	3	4	1	1	2
Medical & Clinical Laboratory Technicians	4	5	1	1	2
Medical Records Technicians & Technologists	1	1	0	0	0
Radiologic Technicians	2	2	0	0	0
Electrocardiograph Techs.	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	14	15	1	1	2
First Line Supers.-Clerical & Admin. Support	1	1	0	0	0
Medical Secretaries	1	1	0	0	0
Receptionists & Information Clerks	2	2	0	0	0
File Clerks	1	1	0	0	0
Interviewing Clerks, Exc. Personnel & Welfare	1	1	0	0	0
Billing, Cost, & Rate Clerks	1	1	0	0	0
General Office Clerks	1	1	0	0	0
Switchboard Operators	1	1	0	0	0
Stock Clerks - Stockroom, Warehouse, or Yard	1	1	0	0	0
All Other Clerical & Administrative Support	4	5	1	1	2
SERVICE OCCUPATIONS	50	60	10	10	20
Housekeepers	1	1	0	0	0
All Service Supervisors & Managers	1	1	0	0	0
Cooks, Institution or Cafeteria	4	5	1	1	2
Food Preparation Workers	7	9	2	1	3
All Other Food Service Workers	1	1	0	0	0
Nursing Aides, Orderlies, & Attendants	28	34	6	7	13
Physical & Corrective Therapy Assists./Aides	1	1	0	0	0
Maids & Housekeeping Cleaners	4	5	1	1	2
Janitors & Cleaners, Exc. Maids & Housekeeping	1	1	0	0	0
All Other Service Workers	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	3	3	0	0	0
Maintenance Repairers, General Utility	3	3	0	0	0
TOTAL ALL OCCUPATIONS	168	198	30	32	62

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

YAVAPAI COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	55	67	12	7	19
Financial Managers	5	6	1	1	2
Personnel, Training, & Labor Relations Mgrs.	4	5	1	1	2
Purchasing Managers	3	4	1	0	1
Marketing, Advertising, & Public Rel. Mgrs.	1	1	0	0	0
Administrative Services Managers	1	1	0	0	0
Medicine & Health Services Managers	14	17	3	2	5
Food Service & Lodging Managers	2	2	0	0	0
General Managers & Top Executives	5	6	1	1	2
All Other Managers & Administrators	20	25	5	2	7
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	570	700	130	112	242
Accountants & Auditors	1	1	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	4	5	1	0	1
Personnel, Training, & Labor Rel. Specialists	2	2	0	0	0
Compliance & Enforcement Inspectors, Exc. Const.	1	1	0	0	0
All Other Management Support Workers	4	5	1	0	1
Mechanical Engineers	2	2	0	0	0
All Other Engineering & Related Technicians	1	1	0	0	0
Biological Scientists	1	1	0	0	0
Computer Programmers	2	2	0	0	0
Psychologists	3	4	1	0	1
Social Workers, Medical & Psychiatric	11	14	3	2	5
Social Service Technicians	8	10	2	1	3
Clergy	3	4	1	0	1
Nursing Instructors	3	4	1	0	1
Librarians, Professional	1	1	0	0	0
Technical Assistants, Library	1	1	0	0	0
Physicians & Surgeons	23	28	5	3	8
Dentists	3	4	1	0	1
Respiratory Therapists	18	22	4	3	7
Occupational Therapists	4	5	1	1	2
Physical Therapists	6	7	1	1	2
Corrective & Manual Arts Therapists	2	2	0	0	0
Recreational Therapists	2	2	0	0	0
Registered Nurses	280	345	65	61	126
Licensed Practical Nurses	72	89	17	20	37
Pharmacists	14	17	3	2	5
Dietitians & Nutritionists	7	9	2	2	4
Medical & Clinical Laboratory Technologists	14	17	3	3	6
Medical & Clinical Laboratory Technicians	25	31	6	4	10
Medical Records Technicians & Technologists	2	2	0	1	1
Nuclear Medicine Technologists	3	4	1	1	2
Radiologic Technologists	12	15	3	2	5
Radiologic Technicians	5	6	1	1	2
Electrocardiograph Techs.	2	2	0	0	0
Surgical Technicians	11	14	3	2	5
All Other Health Professionals, Paraprofessionals, & Technicians	16	20	4	2	6
All Other Professional, Paraprofessional, & Technical Workers	1	1	0	0	0
SALES & RELATED OCCUPATIONS	4	5	1	1	2
Cashiers	4	5	1	1	2
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	190	233	43	44	87
First Line Supers.-Clerical & Admin. Support	4	5	1	1	2
Medical Secretaries	27	33	6	8	14
All Other Secretaries	20	25	5	6	11
Typists	30	37	7	9	16
Personnel Clerks, Exc. Payroll & Timekeeping	4	5	1	1	2
File Clerks	4	5	1	1	2
Procurement Clerks	1	1	0	0	0

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

YAVAPAI COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Statistical Clerks	6	7	1	1	2
Interviewing Clerks, Exc. Personnel & Welfare	13	16	3	2	5
Bookkeeping, Accounting, & Auditing Clerks	9	11	2	2	4
Payroll & Timekeeping Clerks	2	2	0	0	0
Billing, Cost, & Rate Clerks	11	14	3	3	6
General Office Clerks	14	17	3	3	6
Billing, Posting, & Calculating Machine Opers.	6	7	1	1	2
Computer Operators, Exc. Peripheral Equipment	4	5	1	0	1
Data Entry Keyers, Exc. Composing	4	5	1	0	1
Switchboard Operators	9	11	2	3	5
Stock Clerks - Stockroom, Warehouse, or Yard	10	12	2	1	3
All Other Material Recording/Scheduling/Dist.	1	1	0	0	0
All Other Clerical & Administrative Support	11	14	3	2	5
SERVICE OCCUPATIONS	309	381	72	70	142
Housekeepers	5	6	1	1	2
Guards & Watch Guards	9	11	2	0	2
Food Servers, Outside	7	9	2	1	3
Cooks, Institution or Cafeteria	14	17	3	2	5
Cooks, Short Order	8	10	2	1	3
Food Preparation Workers	66	81	15	14	29
Dental Assistants	3	4	1	1	2
Medical Assistants	3	4	1	1	2
Nursing Aides, Orderlies, & Attendants	112	138	26	27	53
Physical & Corrective Therapy Assists./Aides	3	4	1	1	2
Pharmacy Assistants	9	11	2	2	4
All Other Health Service Workers	5	6	1	0	1
Maids & Housekeeping Cleaners	65	80	15	19	34
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	1	1	0	0	0
Gardeners & Groundskeepers, Exc. Farm	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	60	70	10	4	14
First Line Managers/Supervisors - Mechanics/Installers/Repairers	5	6	1	1	2
Maintenance Repairers, General Utility	14	17	3	1	4
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1	1	0	0	0
Electromedical & Biomedical Equip. Repairers	5	6	1	0	1
Carpenters	2	2	0	0	0
Electricians	4	5	1	0	1
Painters & Paperhangers - Construction & Maintenance	2	2	0	0	0
Plumbers, Pipefitters, & Steamfitters	2	2	0	0	0
All Other Construction Trades Workers	1	1	0	0	0
Precision Dental Laboratory Technicians	1	1	0	0	0
Sewing Machine Operators, Non-Garment	1	1	0	0	0
Laundry/Drycleaning Mach. Opers., Exc. Pressing	5	6	1	1	2
Boiler Operators & Tenders, Low Pressure	6	7	1	1	2
Truck Drivers, Light - Incl. Delivery & Route	5	6	1	0	1
Industrial Truck & Tractor Operators	1	1	0	0	0
Helpers, Laborers, & Material Movers, Hand	5	6	1	0	1
TOTAL ALL OCCUPATIONS	1,189	1,457	268	238	506

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

YUMA COUNTY

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	24	28	4	3	7
Financial Managers	1	1	0	0	0
Personnel, Training, & Labor Relations Mgrs.	1	1	0	0	0
Purchasing Managers	1	1	0	0	0
Administrative Services Managers	2	2	0	0	0
Medicine & Health Services Managers	5	6	1	1	2
Food Service & Lodging Managers	1	1	0	0	0
General Managers & Top Executives	7	9	2	1	3
All Other Managers & Administrators	6	7	1	1	2
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	423	521	98	98	196
Purchasing Agents, Exc. Wholesale, Retail, & Farm	1	1	0	0	0
Personnel, Training, & Labor Rel. Specialists	1	1	0	0	0
Electrical/Electronic Engineering Technicians	2	2	0	0	0
Biological Scientists	3	4	1	0	1
Systems Analysts, Electronic Data Processing	2	2	0	0	0
Computer Programmers	1	1	0	0	0
Computer Programmer Aides	1	1	0	0	0
Social Workers, Medical & Psychiatric	1	1	0	0	0
Clergy	3	4	1	0	1
Nursing Instructors	3	4	1	0	1
All Other Teachers & Instructors	2	2	0	0	0
Librarians, Professional	1	1	0	0	0
Technical Assistants, Library	1	1	0	0	0
Physicians & Surgeons	6	8	2	1	3
Dentists	2	2	0	0	0
Respiratory Therapists	6	8	2	1	3
Registered Nurses	159	196	37	39	76
Licensed Practical Nurses	122	150	28	35	63
Pharmacists	6	8	2	1	3
Dietitians & Nutritionists	3	4	1	1	2
Dietetic Technicians	1	1	0	0	0
Medical & Clinical Laboratory Technologists	32	39	7	7	14
Medical & Clinical Laboratory Technicians	11	14	3	2	5
Medical Records Technicians & Technologists	20	25	5	6	11
Nuclear Medicine Technologists	1	1	0	0	0
Radiologic Technologists	12	15	3	2	5
Electroencephalograph Techs.	2	2	0	0	0
Electrocardiograph Techs.	4	5	1	1	2
Surgical Technicians	6	8	2	1	3
All Other Health Professionals, Paraprofessionals, & Technicians	7	9	2	1	3
Public Rel. Specialists & Publicity Writers	1	1	0	0	0
SALES & RELATED OCCUPATIONS	5	6	1	1	2
Cashiers	5	6	1	1	2
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	231	283	52	51	103
First Line Supers.-Clerical & Admin. Support	37	45	8	5	13
Library Assistants & Bookmobile Drivers	1	1	0	0	0
Medical Secretaries	4	5	1	1	2
All Other Secretaries	6	7	1	2	3
Typists	7	9	2	2	4
Typists, Word Processing Equipment	6	7	1	1	2
Personnel Clerks, Exc. Payroll & Timekeeping	7	9	2	3	5
File Clerks	1	1	0	0	0
Statistical Clerks	9	11	2	2	4
Interviewing Clerks, Exc. Personnel & Welfare	11	14	3	2	5
Bookkeeping, Accounting, & Auditing Clerks	2	3	1	1	2
Payroll & Timekeeping Clerks	2	2	0	0	0
Billing, Cost, & Rate Clerks	18	22	4	5	9
General Office Clerks	80	99	19	20	39
Computer Operators, Exc. Peripheral Equipment	2	3	1	0	1

ESTIMATED EMPLOYMENT AND JOB OPENINGS
HOSPITALS

YUMA COUNTY (CONTD.)

	Estimated May 1983 Employment	Projected May 1987 Employment	Job Openings Due to Growth 1983-1987	Job Openings Due to Separations 1983-1987	Total Job Openings 1983-1987
Data Entry Keyers, Exc. Composing	4	5	1	1	2
Switchboard Operators	6	7	1	2	3
Stock Clerks - Stockroom, Warehouse, or Yard	2	2	0	0	0
Traffic, Shipping, & Receiving Clerks	1	1	0	0	0
All Other Material Recording/Scheduling/Dist.	10	12	2	1	3
All Other Clerical & Administrative Support	15	18	3	3	6
SERVICE OCCUPATIONS	210	256	46	42	88
Housekeepers	2	2	0	0	0
All Service Supervisors & Managers	4	5	1	1	2
Guards & Watch Guards	8	10	2	0	2
Cooks, Institution or Cafeteria	8	10	2	2	4
Food Preparation Workers	28	34	6	6	12
All Other Food Service Workers	3	4	1	1	2
Dental Assistants	2	2	0	0	0
Nursing Aides, Orderlies, & Attendants	86	106	20	21	41
Psychiatric Aides	1	1	0	0	0
Pharmacy Assistants	2	2	0	0	0
All Other Health Service Workers	32	39	7	3	10
Maids & Housekeeping Cleaners	29	35	6	8	14
Janitors & Cleaners, Exc. Maids & Housekeeping	3	4	1	0	1
All Other Cleaning/Building Service, Exc. Private House	2	2	0	0	0
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	2	2	0	0	0
Gardeners & Groundskeepers, Exc. Farm	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	25	29	4	1	5
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	1	1	0	0	0
First Line Managers/Supervisors - Construction Trades & Extraction Workers	1	1	0	0	0
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	3	4	1	0	1
Maintenance Repairers, General Utility	11	14	3	1	4
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	2	2	0	0	0
Electromedical & Biomedical Equip. Repairers	2	2	0	0	0
Menders - Garments, Linens, & Related	1	1	0	0	0
Boiler Operators & Tenders, Low Pressure	1	1	0	0	0
All Other Motor Vehicle Operators	1	1	0	0	0
Helpers, Laborers, & Material Movers, Hand	2	2	0	0	0
TOTAL ALL OCCUPATIONS	920	1,125	205	196	401

METHODOLOGY

Sample Selection and Response Rates

Using standardized survey forms provided by the Department of Labor, a survey of all Arizona hospitals was conducted. A positive response from each of the 91 hospitals yielded a 100 percent response rate.

Employment Projections

Projecting occupational employment and demand is accomplished in two basic stages. First, total hospital employment is estimated for the target years. These forecasts are computed using an econometric model driven by forecast values for variables such as national unemployment, interest rates, and industrial production. Staffing pattern ratios, as determined by the OES survey are then applied to the industry employment projections and represents the second stage of the forecasting methodology.

Employment data reflects full or part-time workers, workers on paid leave, and workers on unpaid short-term absences, e.g., sick leave, temporary layoff, and jury duty. Also included are salaried officers, executives, and staff of incorporated firms. Workers performing tasks related to two or more occupations are classified according to their highest level of skill.

Job Openings

"Total Job Openings" represents the sum of openings resulting from expansion and replacement during the projection period. Expansion is the numerical difference in employment for a given period. Replacement represents job openings that transpire due to separations from the labor force, i.e., death, retirement, and pregnancy, and is based on national occupational separation rates[1]. The "Total Job Openings" column does not account for labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are generally the largest source of job openings.

Limitations of the Data

The projection method does not account for cyclical, seasonal, and such external factors as sudden discontinuations or initiations of major government programs.

Employment forecasts for the nonmetropolitan counties are based on growth rates developed for the "balance of state" (Arizona less Maricopa and Pima counties) rather than for individual counties.

---

[1] "Tomorrow's Manpower Needs," Supplement No. 4, BLS, 1974, pp. 11-16.

LABOR MARKET INFORMATION PUBLICATIONS
OCCUPATIONAL EMPLOYMENT STATISTICS
BOX 6123, SITE CODE 733A
PHOENIX, ARIZONA 85005

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
EMPLOYMENT SECURITY MAIL
LAB 441

FIRST CLASS MAIL

Cheryl Waldman
Congressional Infor. Service
4520 East-West Highway
Bethesda, Maryland 20814

Reproduction of this publication for commercial use is prohibited by Section 39-121 Arizona Revised Statutes. Permission to reprint this publication, or parts of it, for nonprofit use may be granted upon written request, if credit will be given citing this publication and the Arizona Department of Economic Security.

This periodical is issued and printed by the Arizona Department of Economic Security as authorized by the Wagner-Peyser Act and is paid out of federal funds granted by the U.S. Department of Labor.

If you do NOT desire to continue receiving this publication, please check here ☐ and return this cover to address below.

If your address has changed, please indicate change and return this cover to the address below.

5/30/85 S0465-2.17(u) A

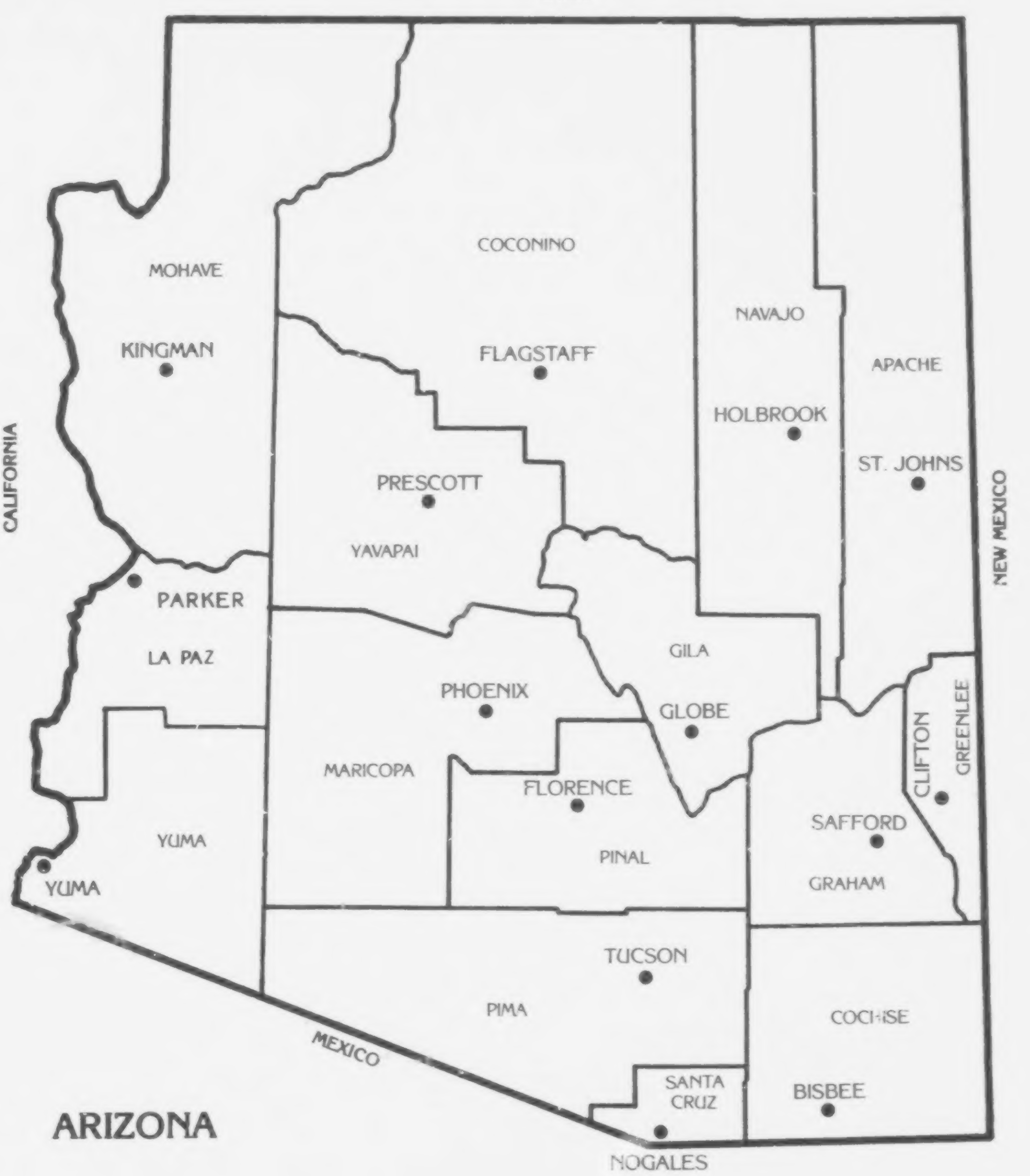
APRIL 1985

PA-340 (5-85)
(Replaces DES-5388)

Arizona Occupational Profile

A Labor Market Information Publication of the Department of Economic Security

MANUFACTURING


UTAH
MOHAVE
KINGMAN
COCONINO
FLAGSTAFF
NAVAJO
HOLBROOK
APACHE
ST. JOHNS
CALIFORNIA
PRESCOTT
YAVAPAI
NEW MEXICO
PARKER
LA PAZ
GILA
GLOBE
PHOENIX
MARICOPA
FLORENCE
PINAL
CLIFTON
GREENLEE
SAFFORD
GRAHAM
YUMA
YUMA
TUCSON
PIMA
COCHISE
MEXICO
SANTA CRUZ
BISBEE
NOGALES

ARIZONA

OCCUPATIONAL PROFILE

The value of current and accurate occupational employment information has long been recognized by job seekers, public and private administrators, and those involved in training, recruiting, and counseling. A major source of this information in Arizona is the Occupational Employment Statistics (OES) Program -- a cooperative effort between Arizona and the U.S. Department of Labor, Bureau of Labor Statistics.

This Occupational Profile is one in a series of publications produced from information developed by the Occupational Employment Statistics survey. These publications represent one of several occupational employment information delivery systems incorporating OES survey data. The survey is used to collect employment data, by county, for nearly 800 occupations in Arizona. From these surveys, which require the cooperation of the Arizona business community, current employment in the various occupations is determined, and from this an occupational outlook is formulated. The Occupational Profiles contain the survey findings and examine, individually, the industries of Arizona.

Surveyed industries include:

Mining
Construction
Manufacturing
Transportation, Communication, and Public Utilities
Trade
Finance, Insurance, and Real Estate
Services
Government

For further information, or to comment on any aspect of this program, please write to the address on the back cover.

INDUSTRY INFORMATION

INDUSTRY DESCRIPTION

Occupational estimates for the manufacturing industry in Arizona are provided in this publication for the state and counties. Firms included represent those involved in the manufacture of both durable and nondurable goods.

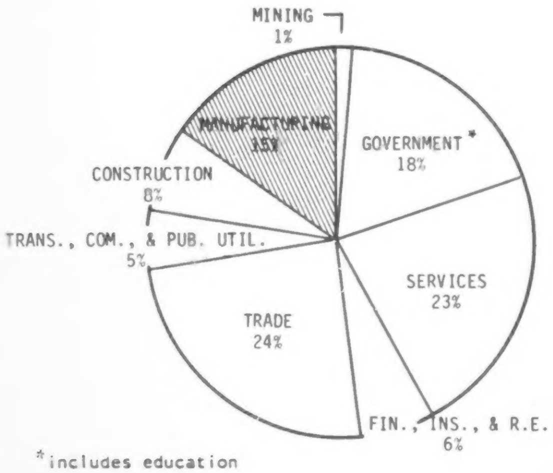
Manufacturers engage in the mechanical or chemical transformation of materials or substances into new products and in assembling component parts of manufactured products. Also included are firms engaged in the smelting and refining of metals.

A detailed description of the types of firms surveyed is found in the Standard Industrial Classification (SIC) Manual[1] under codes 20 through 39.

INDUSTRY CHARACTERISTICS

Of the more than 1.1 million workers in Arizona, about 170,000 or 15 percent were employed in manufacturing in 1984. Ranking behind trade, services, and government, manufacturing is Arizona's fourth-largest industry based on employment. The bulk of employment in manufacturing (79 percent) is involved in the production of durable goods -- primarily machinery. Manufacturers of electronic computing equipment, semiconductors, and related products account for approximately half of the employment in machinery manufacturing.

FIGURE 1: ARIZONA NONAGRICULTURAL EMPLOYMENT, 1984



*includes education

---

[1] Office of Management and Budget, *Standard Industrial Classification Manual*, 1972 Edition, pp. 57-218.

Comparison of manufacturing employment in Arizona and the United States reflects the prominence of machinery and aerospace-related manufacturing in the state. Nationally, a greater share of employment is involved with the manufacture of nondurables -- particularly textiles.

FIGURE 2: DISTRIBUTION OF MANUFACTURING EMPLOYMENT UNITED STATES - FEB. 1984

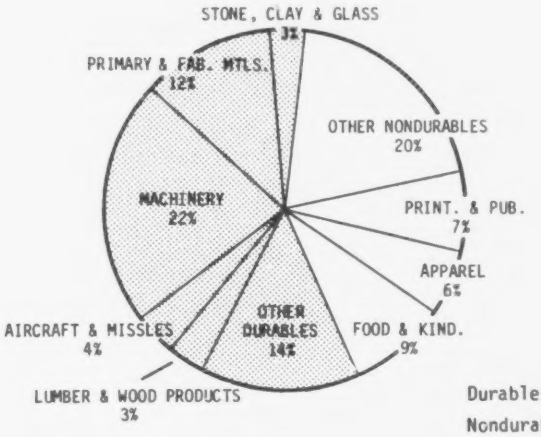
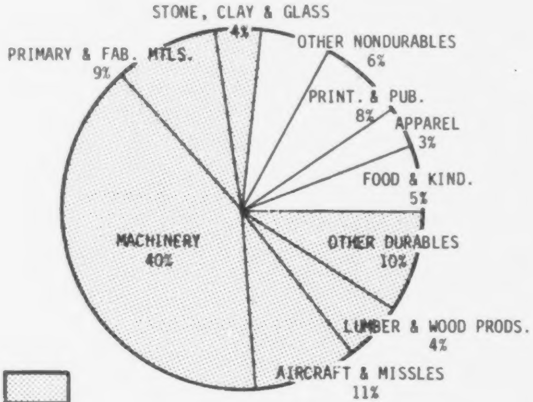


FIGURE 3: DISTRIBUTION OF MANUFACTURING EMPLOYMENT ARIZONA - 1984



Durables ▨
Nondurables ☐

Nearly three of every four persons working in manufacturing are employed in Maricopa County -- the remainder divided between Pima County and the "balance of state." Compared to Maricopa and Pima counties, the nonmetropolitan counties are to a greater degree involved in the manufacture of nondurables -- most notably apparel and food products. Prominent in the manufacture of food products are firms producing bottled and/or canned drinks in Navajo, Yuma, and Coconino counties, pet foods in Coconino county, canned fruits and vegetables in Cochise County, and cottonseed oil and cottonseed byproducts in Pinal County. In the apparel industry, manufacturers of men's and boys' clothing dominate, with employment in Pinal, Santa Cruz, and Yuma counties. Of the nonmetro counties, Pinal had the largest manufacturing employment in 1983, most concentrated in the smelting and refining of copper ores and the manufacture of men's apparel. Yavapai County had the greatest number of manufacturing firms, however, led by manufacturers of ready-mix concrete.

FIGURE 4: MANUFACTURING FIRMS AND EMPLOYMENT BY COUNTY - 1983

County	Firms	Employ.
Apache	18	525
Cochise	46	1,575
Coconino	74	2,375
Gila	26	1,375
Graham/Greenlee	11	450
Maricopa	2,257	112,100
Mohave	75	2,175
Navajo	51	1,650
Pima	497	26,600
Pinal	61	2,475
Santa Cruz	38	850
Yavapai	85	1,975
Yuma/LaPaz	55	1,650
STATE	3,294	155,775

The following table provides a profile of each county's manufacturing employment. Conspicuous are several counties whose manufacturing profile is dominated by a single industry. The manufacture of primary and fabricated metals (copper smelting) in Gila County and lumber and lumber products in Apache County are most notable.

FIGURE 5: COUNTY MANUFACTURING EMPLOYMENT PROFILE
- PERCENT DISTRIBUTION, 1984 -

	Total	Aircraft & Missiles	Lumber	Stone, Clay & Glass	Primary & Fab. Mtls.	Machinery	Food & Kind.	Print. & Pub.	Apparel	Other
Apache	100%	*	60	2	*	38	*	*	*	*
Cochise	100%	*	*	15	23	13	12	11	16	10
Coconino	100%	*	32	3	10	4	15	9	2	25
Gila	100%	*	9	4	80	*	1	5	*	1
Graham/Greenlee	100%	*	*	1	72	*	18	9	*	*
Maricopa	100%	9	3	3	9	43	5	8	3	17
Mohave	100%	*	1	4	7	39	1	7	16	25
Navajo	100%	*	35	5	*	2	11	5	*	42
Pima	100%	26	1	4	7	40	4	8	1	9
Pinal	100%	*	5	12	30	3	8	4	18	20
Santa Cruz	100%	*	1	1	1	35	5	3	21	33
Yavapai	100%	1	3	18	24	28	*	7	12	7
Yuma	100%	10	1	7	1	4	15	10	31	21

PERCENT

In 1983, manufacturing establishments numbered more than 3,300, many of which were printing and publishing firms (690); manufacturers of non-electrical machinery, i.e., tools and dies and air conditioning equipment (490); and firms that manufacture fabricated metal products other than machinery, i.e., sheet metal and ornamental metal manufacturers (360). Most manufacturing firms are relatively small (64 percent employ less than 20 persons); yet, 1 percent of Arizona's manufacturing firms employ half of the industry's workers.

FIGURE 6: MANUFACTURING FIRMS BY SIZE CLASS
(SECOND QUARTER 1984)

Employment Size Class	0-9	10-19	20-49	50-99	100-249	250-499	500-999	1,000+
Establishments	1,646	580	560	216	148	57	19	18

INDUSTRY TRENDS

Attesting to the rapid expansion of Arizona's economy, manufacturing employment increased an average of nearly 7 percent annually between 1970 and 1980 and yet was outpaced by all of the other major industry sectors except mining and government. In comparison, annual employment gains for manufacturers nationwide averaged less than 1 percent during the period. Following employment losses in 1982 and marginal increases in 1983, the fortunes of local manufacturing firms rebounded strongly with the economy in 1984.

FIGURE 7: A COMPARISON OF INDUSTRY
GROWTH RATES IN ARIZONA

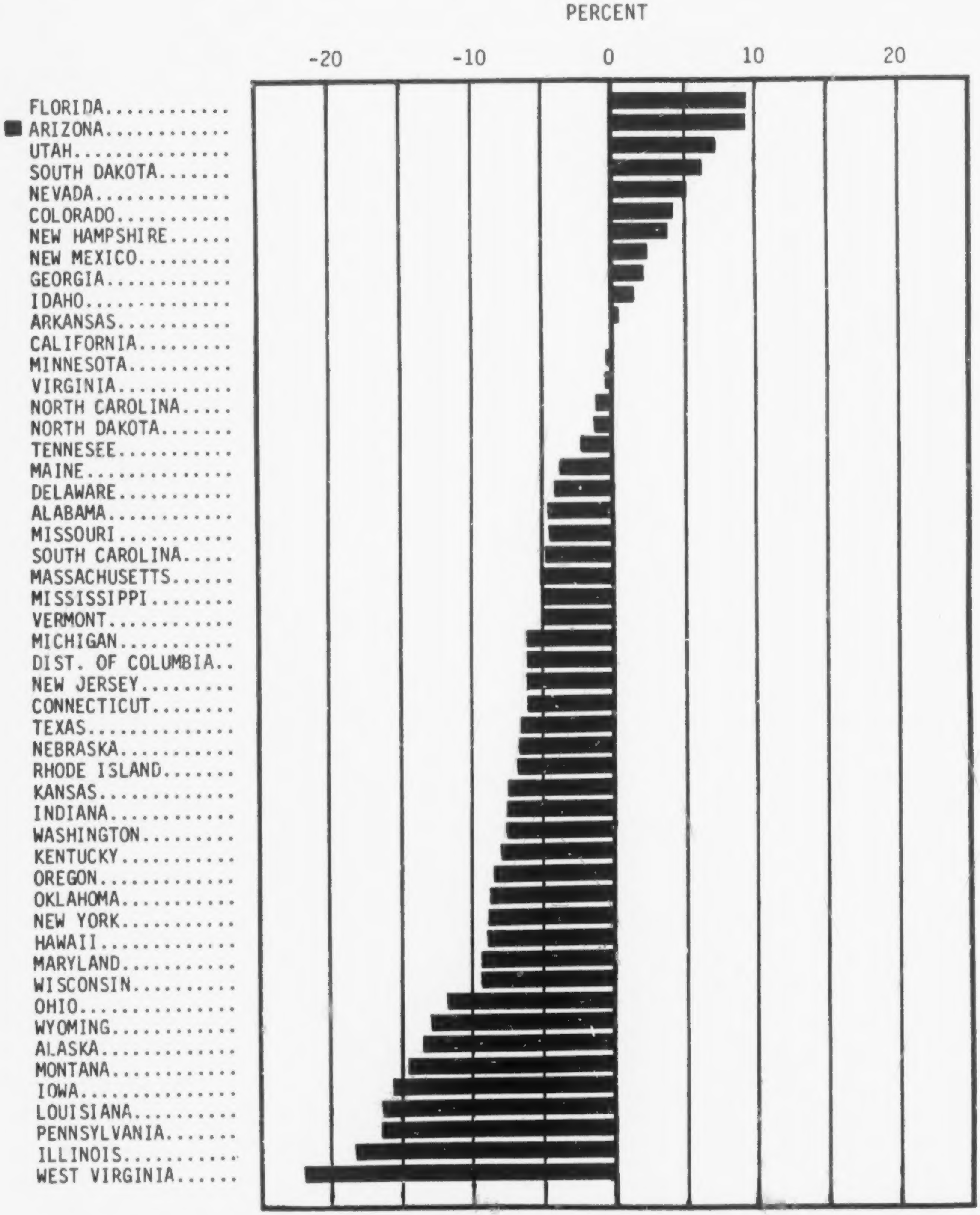
	Employment (000s)			Percent Growth	
	1970	1980	1984	1970-1980	1980-1984
Manufacturing	91.2	154.4	172.3	69.3 %	11.6 %
Mining	20.6	21.0	13.3	1.9	-36.7
Construction	37.1	76.6	96.2	106.5	25.6
TCPU	30.0	51.3	60.4	71.0	17.7
Trade	127.0	243.0	286.7	91.3	18.0
FIRE	30.5	58.2	71.7	90.8	23.2
Services	91.5	207.7	274.1	127.0	32.0
Government	119.5	201.8	206.1	68.9	2.1
TOTAL	547.4	1,014.0	1,180.8	85.2 %	16.4 %

Since 1980, virtually all manufacturing employment growth was claimed by Maricopa and Pima counties and was concentrated in the manufacture of durable goods. Although not creating as many job openings as its upstate metropolitan counterpart, Pima County manufacturers increased their employment 35 percent between 1980 and 1984. Maricopa County registered a 10 percent increase for the period while in the rural counties Apache, Yavapai, Coconino, and Yuma registered the largest gains.

In recent years, the manufacture of aircraft and missiles has provided the primary impetus for expansion in the state's durable sector, increasing employment more than 50 percent between 1980 and 1984. Further contributing to this sector's robust expansion are manufacturers of electrical components whose employment increased 25 percent for the period. Predominant in this industry are firms engaged in the manufacture of semiconductors and related solid state devices.

In the manufacture of nondurable products, firms involved in printing and publishing are perpetuating a trend of consistent employment increases. Also showing recent strength are firms producing miscellaneous plastics products, and, although having limited employment, those producing textile goods.

FIGURE 8: PERCENT CHANGE IN AVERAGE ANNUAL MANUFACTURING EMPLOYMENT BY STATE 1980 to 1984 (PRELIMINARY)



Source: Bureau of Labor Statistics, U.S. Department of Labor.

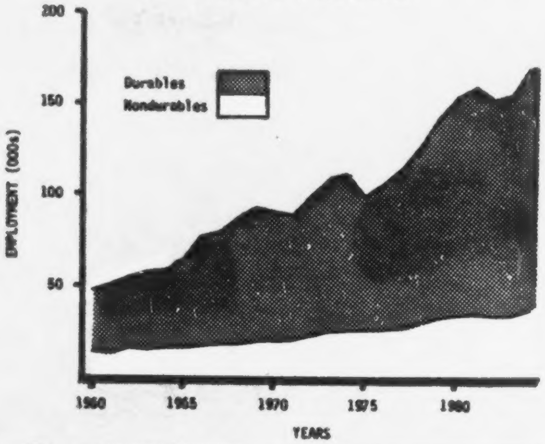
FIGURE 9: EMPLOYMENT CHANGE IN ARIZONA'S MANUFACTURING INDUSTRIES (1980 - 1984)

	EMPLOYMENT		NUMERICAL	PERCENT
INDUSTRIES	1980	1984	CHANGE	CHANGE
FOOD & KIND. PRODS.	9,414	7,949	-1,465	-15.6%
APPAREL	5,565	5,047	-517	-9.3
LUMBER & WOOD PRODS.	5,956	7,147	1,191	20.0
PRINTING A PUBLISH.	11,075	13,438	2,363	21.3
CHEMICALS & ALLIED	3,445	3,739	294	8.5
STONE, CLAY & GLASS	6,299	7,334	1,035	16.4
PRIMARY METALS	9,508	7,009	-2,499	-26.3
FABRICATED METALS	7,951	9,337	1,386	17.4
MACHINERY, EXC. ELECT.	24,660	25,705	1,045	4.2
ELECTRICAL MACHINERY	33,572	42,384	8,812	26.2
ALL OTHER MFG.	37,015	43,218	6,203	16.8
TOTAL	154,459	172,307	17,848	11.6%

Losing employment during the period were the primary metals industry (smelting), the manufacture and processing of food products, apparel, leather, and petroleum products.

Although fluctuating with the business cycle, manufacturing's historically strong growth pattern is expected to continue. The industry will, however, lose some of its share of employment to the state's service-producing sectors -- reflecting an evolution that is evident both locally and, to a greater degree, nationally. Not to be interpreted as a sign of weakness, this evolution supports the contention that each newly created job in manufacturing results in the creation of at least one other in a service-producing industry.

FIGURE 10: ARIZONA MANUFACTURING EMPLOYMENT, 1960-1984



Fortified by the demand for so-called high-tech products, the projected growth rate for manufacturing employment will approximate the average for all Arizona industries. Only the trade and services sectors are expected to register more than the 20 percent increase expected in manufacturing between 1983 and 1987. Most of the industry's employment growth will be in the Phoenix and Tucson metropolitan areas -- each expected to register approximately 20 percent expansion between 1983 and 1987. A portion of this expansion, however, represents the rebounding of employment to pre-recession levels.

As demonstrated in the past, the various manufacturing industries will realize significant variation in employment growth. Manufacturers of durable goods will continue to show the largest increases. Most prominent will be firms manufacturing electrical and electronic machinery and, with heightened federal defense expenditures, those manufacturing ordnance and aerospace products. Richard Kloster, employment manager of Garrett Turbine Engine Company, for example, foresees federal spending for military equipment manifesting itself in an increasing number and percentage of Garrett employment involved in the production of engines for military rather than commerical and general aviation. Other Arizona manufacturers will similarly benefit in the coming years. On the other hand, employment in Arizona's food manufacturing and processing industry will, like the nation's, little more than maintain current employment levels.

Future employment growth will, as in other sunbelt states, be augmented by the economic boost created by immigration and the relocation and establishment of new businesses in the state. The concentration of manufacturing employment will continue to shift away from the eastern and midwestern industrial complex to establish greater geographical homogeneity.

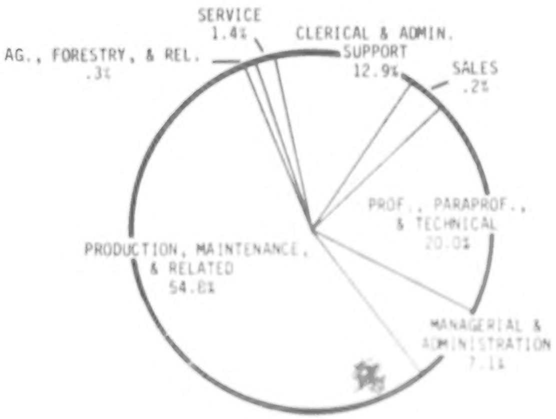
OCCUPATIONAL INFORMATION

OCCUPATIONAL ANALYSIS

Not surprisingly, production and maintenance workers dominate in manufacturing -- accounting for more than half of the industry's employment. In this category is a wide range of occupations which includes assemblers, mechanics and repairers, truck drivers, and craft workers such as carpenters and electricians. Numbering more than 8,000 in 1983, precision electrical and electronic equipment assemblers represent Arizona's largest manufacturing occupation and contribute significantly to the size of the maintenance and production category.

With employment of nearly 7,000, electrical and electronic engineers rank as the second largest occupation in Arizona's manufacturing industry and are followed by first-line production managers and supervisors with 4,600.

FIGURE 11: OCCUPATIONS IN ARIZONA'S
MANUFACTURING INDUSTRY
MAY 1983



Review of manufacturing occupations with the greatest employment reflects the significance of electronics-related firms in the state. Three of the top five occupations are directly related to the production of electrical goods. Also ranking high are occupations common to all or most manufacturers, e.g., managers and executives, clerical workers, and assemblers and fabricators.

Comparison of the staffing patterns for metropolitan and nonmetropolitan counties indicates a larger percentage of professional and technical personnel and a smaller share of maintenance and production workers in Maricopa and Pima counties. In Pima County, for example, one worker in four is a professional, paraprofessional, or technical worker, whereas in the nonmetropolitan counties the ratio is about one in seventeen.

Outside of Maricopa and Pima counties, three-fourths of all manufacturing employees are production and maintenance workers. A greater emphasis on research and development and the location of administrative services in Phoenix and Tucson contribute to this geographic distribution. Research and development is especially vital to the aerospace and electronics industries which are active in these cities. Of the state's nearly 7,000 electrical and electronic engineers employed in 1983, 5,200 worked in Maricopa County, 1,600 in Pima County, and 40 in the "balance of state." Employment of electrical and electronic engineering technicians and technologists is to an even greater degree concentrated in the two urban counties, with nearly ninety percent employed in Maricopa County alone.

FIGURE 12: COMPARISON OF
COUNTY STAFFING PATTERNS - JUNE 1983

	Maricopa County	Pima County	Nonmetro Counties
Managerial & Admin.	7.1	8.7	4.6
Professional & Tech.	20.9	24.9	6.2
Sales	3.8	3.0	2.0
Clerical	12.5	16.3	9.7
Service	1.4	1.2	1.4
Agri. & Forestry	.1	.0	2.0
Production & Mainten.	54.2	45.9	74.1
	100.0 %	100.0 %	100.0 %

In Arizona, manufacturing will realize expansion in each of the major occupational categories as the industry adds 30,000 new jobs between 1983 and 1987. Changes in occupational employment will vary, however, as the industry responds to a host of technical, political, and economic developments. Continued mechanization, for example, and other laborsaving procedures will, over the long-run, continue to erode the industry's employment share claimed by laborers, helpers, and material movers. On the other hand, increasingly complex manufacturing processes will strengthen the demand for a variety of professional and technical occupations.

Production and maintenance occupations will continue to provide the greatest number of opportunities to job seekers. Led by the demand for assemblers, this occupational category is expected to provide more than 25,000 openings between 1983 and 1987 as a result of industry expansion and the need to replace workers who leave the labor force. Because assembly jobs often require limited education or training, there is significant occupational mobility and, as a result, an even greater number of workers will be needed to satisfy turnover requirements. Although its impact is a topic of controversy, the mechanization of assembly-line operations will likely dampen the demand for certain assemblers. Much assembly work is, however, beyond the capabilities of today's robots which have yet to receive widespread application in the assembly of small or irregularly shaped parts.

Already suppressing employment of assemblers, according to staffing specialist Robert W. Dyck of Honeywell Information Systems, Inc., is increased product sophistication. "In the manufacture of computers," he says, "the production of more powerful, but smaller, units requires the assembly of fewer parts." Such trends notwithstanding, assembly occupations will continue to provide the greatest number of job openings in Arizona's manufacturing industry.

FIGURE 13: OCCUPATIONS WITH THE GREATEST EMPLOYMENT IN ARIZONA'S MANUFACTURING INDUSTRY

	Employment 1983	Job Openings* 1983-1987
Electrical/Electronic Equipment Assemblers - Precision	8,275	4,001
Electrical & Electronic Engineers	6,860	2,056
First Line Managers/Supervisors - Production & Operatives	4,592	1,209
Electrical/Electronic Engineering Technicians	4,094	1,357
Assemblers/Fabricators	3,939	1,440
General Managers & Top Executives	3,498	1,102
Secretaries	3,146	1,405
Machinists	2,779	754
General Office Clerks	2,742	1,180
Sewing Machine Operators, Garment	2,740	850
Production Inspectors, Testers, Graders	2,391	777
Electronic Semiconductor Processors	2,387	995
Precision Inspectors, Testers, & Graders	2,299	848
Other Sales Representatives, Exc. Retail	2,294	782
Electrical & Electronic Assemblers	2,196	794
Truck Drivers, Heavy or Tractor Trailer	1,917	361
Mechanical Engineers	1,701	474
Production, Planning, & Expediting Clerks	1,667	769
Bookkeeping, Accounting, & Auditing Clerks	1,638	637
Industrial Production Managers	1,568	494
Stock Clerks - Storeroom, Warehouse, or Yard	1,553	536
Electro-Mech. Equip. Assemblers - Precision	1,523	653
Traffic, Shipping, & Receiving Clerks	1,466	469
Packaging & Filling Machine Opers. & Tenders	1,408	323
Industrial Engineers, Exc. Safety	1,404	475
Maintenance Repairers, General Utility	1,240	311
Systems Analysts, Electronic Data Processing	1,167	265
Freight, Stock, & Material Movers, Hand	1,150	300
Drafters	1,131	389
Computer Programmers	1,089	230
Truck Drivers, Light - Incl. Delivery & Route	1,086	218
Machine Tool Cutting Operators & Tenders - Metal	1,081	298
Janitors & Cleaners, Exc. Maids & Housekeeping	1,076	418
Industrial Truck & Tractor & Operators	1,062	202
Hand Packers & Packagers	960	241

*Does not include turnover.

Particularly vulnerable to pressures of mechanization is employment of laborers, freight and stock movers, and other unskilled workers. Automation coupled with the relatively large labor force in these occupations will make job-hunting increasingly competitive.

Professional and technical personnel are expected to continue increasing their share of industry employment with research and development insuring a demand for engineers, scientists, and technicians. Electrical and electronic engineers, which represent the largest professional occupation in manufacturing, account for nearly five percent of all manufacturing employment and nine percent of electronics-related manufacturing employment. With their knowledge of mathematics, science, and electronics, engineers are involved with production and quality control as well as research and development. Most are specialized and work in a specific area, such as in the design and implementation of solid-state circuitry in radar, computers, and calculators. Although increased demand by businesses and government for computers, communications equipment, and military electronics is expected to account for much of the projected employment demand for engineers, consumer demand for electrical and electronic goods, and increased research and development for more efficient manufacturing processes will likely create additional jobs. Other opportunities will be available for engineers in sales departments as industry products increasingly require sales personnel with technical backgrounds.

Also critical in the design and manufacture of electrical and electronic equipment are technicians, whose employment will expand an estimated 25 percent between 1983 and 1987. Opportunities will be best for graduates of postsecondary school technical training programs, particularly programs in which students gain practical work experience. The need to maintain and repair an ever-increasing number of electronic products used by industry and consumers will contribute to a strong and stable demand for workers with technical skills.

As in other industries in Arizona, a strong and unwavering demand for quality clerical personnel exists in manufacturing. During the projection period, more than 4,000 openings will result from industry growth and the need to replace those who leave the labor force. Because turnover rates are relatively high for clerical workers, many more opportunities will result from the need to replace workers who change jobs. Especially attractive to employers are clerical workers who are proficient with word processing and other office equipment. Expected to experience the strongest demand are secretaries, general office clerks, production, and bookkeeping clerks.

FIGURE 14: MANUFACTURING OCCUPATIONS WITH THE GREATEST EMPLOYMENT AND JOB OPENINGS

LARGEST OCCUPATIONS BY COUNTY	ESTIMATED 1983 EMPLOYMENT	PCT. OF COUNTY TOTAL	HIGHEST DEMAND OCCUPATIONS 1983-1987	ESTIMATED OPENINGS 1983-1987
APACHE				
Precision Assemblers, Metal	111	25.8%	Precision Assemblers, Metal	47
Precision Inspectors, Testers, & Graders	39	9.1	Precision Inspectors, Testers & Graders	14
Logging Tractor Operators	27	6.3	Logging Tractor Operators	5
First Line Mgrs./Supers.-Maint./Prod./Construction	19	4.4	Plastic Molding & Casting Machine Operators & Tenders	5
Woodworking Machine Operators & Tenders, Exc. Sawing	16	3.7	Woodworking Machine Operators & Tenders, Exc. Sawing	4
COCHISE				
Sewing Machine Opers., Garment	153	10.7%	Sewing Machine Opers., Garment	36
First Line Mgrs./Supers. - Production & Operatives	68	4.7	General Office Clerks	13
Truck Drivers, Heavy or Tractor Trailer	52	3.6	Truck Drivers, Heavy or Tractor Trailer	13
General Managers & Top Execs.	36	2.5	General Managers & Top Execs.	12
Maintenance Repairers, General Utility	35	2.4	First Line Mgrs./Supers. - Production & Operatives	10
COCONINO				
General Managers & Top Execs.	83	3.7%	General Managers & Top Execs.	24
First Line Mgrs./Supers. - Production & Operatives	72	3.2	Medical Appliance Makers	24
Medical Appliance Makers	69	3.1	Package & Filling Machine Opers. & Tenders	21
Machinists	68	3.1	Machinists	19
Packaging & Filling Machine Operators & Tenders	61	2.8	Secretaries	19
GILA				
First Line Mgrs./Supers. - Production & Operatives	107	8.3%	First Line Mgrs./Supers. - Production & Operatives	7
Furnace Operators & Tenders	60	4.6	General Mgrs. & Top Execs.	7
Heat Treating/Tempering Mach. Opers. - Metal & Plastic	55	4.3	Heat Treating/Tempering Mach. Opers. - Metal & Plastic	7
Electricians	47	3.6	Furnace Opers. & Tenders	7
Truck Drivers, Heavy or Tractor Trailer	42	3.2	Truck Drivers, Heavy or Tractor Trailer	7
GRAHAM & GREENLEE				
Furnace Operators & Tenders	99	22.2%	Furnace Operators & Tenders	11
First Line Mgrs./Supers.- Const. Trades & Extraction Workers	35	7.8	Driver/Sales Workers	5
Industrial Truck & Tractor Operators	30	6.7	General Office Clerks	5
Maintenance Repairers, General Utility	27	6.1	Industrial Truck & Tractor Operators	4
Mechanic & Repairer Helpers	24	5.4		

FIGURE 14: MANUFACTURING OCCUPATIONS WITH THE GREATEST EMPLOYMENT AND JOB OPENINGS (CONTD.)

LARGEST OCCUPATIONS BY COUNTY	ESTIMATED 1983 EMPLOYMENT	PCT. OF COUNTY TOTAL	HIGHEST DEMAND OCCUPATIONS 1983-1987	ESTIMATED OPENINGS 1983-1987
MARICOPA				
Electrical/Electronic Equip. Assemblers - Precision	7,352	6.8%	Electrical/Electronic Equip. Assemblers - Precision	3,530
Electrical/Electronic Engineers	5,215	4.8	Electrical/Electronic Engineers	1,550
Electrical/Electronic Engineering Techs.	3,569	3.3	Secretaries	1,040
First Line Mgrs./Supers. - Production & Opers.	3,246	3.0	Electrical/Electronic Engineering Techs.	1,179
Assemblers/Fabricators - Exc. Machine, Elect., & Precision	2,643	2.5	Electronic Semiconductor Processors	986
MOHAVE				
Assemblers/Fabricators - Exc. Machine, Elect., & Precision	181	8.8%	Assembler/Fabricators - Exc. Machine, Elect., & Precision	68
Sewing Machine Operators, Non-Garment	140	6.8	Misc. Engineering & Related Technicians	43
Misc. Engineering & Related Technicians	134	6.5	Combination Machine Tool Operators - Metal & Plastic	35
Combination Machine Tool Operators-Metal & Plastic	87	4.2	Sewing Machine Operators, Non-Garment	33
Packaging & Filling Machine Operators & Tenders	76	3.7	Packaging & Filling Machine Operators & Tenders	24
NAVAJO				
Crushing, Grinding, & Mixing Machine Operators	71	5.8%	Crushing, Grinding, & Mixing Machine Operators	19
Fallers & Buckers	68	5.5	Fallers & Buckers	15
Truck Drivers, Heavy or Tractor Trailer	50	4.1	Salesworkers	13
Machine Feeders & Offbearers	48	3.9	Truck Drivers, Heavy or Tractor Trailer	11
Sawing Machine Operators & Tenders	45	3.7	Sawing Machine Operators & Tenders	10
PIMA				
Electrical & Electronic Engineers	1,605	6.1%	Electrical & Electronic Engineers	502
Electromech. Equip. Assemblers - Precision	1,128	4.3	Electromech. Equip. Assemblers - Precision	472
Electrical & Electronic Assemblers	990	3.7	Electrical & Electronic Assemblers	387
General Office Clerks	811	3.1	Electrical/Electronic Equip. Assemblers - Precision	340
Mechanical Engineers	805	3.0	General Office Clerks	332

FIGURE 14: MANUFACTURING OCCUPATIONS WITH THE GREATEST EMPLOYMENT AND JOB OPENINGS (CONTD.)

LARGEST OCCUPATIONS BY COUNTY	ESTIMATED 1983 EMPLOYMENT	PCT. OF COUNTY TOTAL	HIGHEST DEMAND OCCUPATIONS 1983-1987	ESTIMATED OPENINGS 1983-1987
PINAL				
Sewing Machine Opers., Garment	284	12.6%	Sewing Machine Opers., Garment	67
First Line Mgrs./Supers. - Production & Operatives	113	5.0	First Line Mgrs./Supers.- Production & Operatives	21
Truck Drivers, Heavy or Tractor Trailer	71	3.1	General Mgrs. & Top Execs.	18
Freight, Stock, & Matl. Movers, Hand	63	2.8	Truck Drivers, Heavy or Tractor Trailer	17
General Managers & Top Execs.	57	2.5	Freight, Stock, & Matl. Movers, Hand	15
SANTA CRUZ				
Assemblers/Fabricators - Exc. Machine, Elect., & Precision	105	15.0%	Assemblers/Fabricators - Exc. Machine, Elect., & Precision	34
Sewing Machine Opers., Garment	90	12.8	Sewing Machine Opers., Garment	21
First Line Mgrs./Supers. - Production & Operatives	44	6.3	General Managers & Top Execs.	10
General Managers & Top Execs.	28	4.0	First Line Mgrs./Supers. - Production & Operatives	10
Traffic, Shipping, & Receiving Clerks	25	3.6	Secretaries	8
YAVAPAI				
Assemblers/Fabricators - Exc. Machine, Elect., & Precision	242	11.0%	Assemblers/Fabricators - Exc. Machine, Elect., & Precision	115
Machine Forming Operators & Tenders - Metal & Plastic	155	7.1	Machine Forming Operators & Tenders - Metal & Plastic	74
Truck Drivers, Heavy or Tractor Trailer	72	3.3	Truck Drivers, Heavy or Tractor Trailer	22
Plastic Molding & Casting Mach. Opers. & Tenders	63	2.9	First Line Supers. & Mgr./Supers. - Service	19
Maintenance Repairers, General Utility	62	2.8	Plastic Molding & Casting Mach. Opers. & Tenders	18
YUMA/LA PAZ				
Sewing Machine Operators, Garment	380	23.3%	Sewing Machine Operators, Garment	90
Textile Mach. Opers. - Winding, Weaving, Cutting	213	13.1	Textile Mach. Opers. - Winding, Weaving, Cutting	61
General Managers & Top Execs.	60	3.7	General Managers & Top Execs.	20
Truck Drivers, Heavy or Tractor Trailer	49	3.0	Truck Drivers, Heavy or Tractor Trailer	12
Machinery Maintenance Mechanics, Textiles	33	2.0	Mail Machine Opers., Preparation & Handling	10

OCCUPATIONAL STRUCTURE

The following fourteen tables provide employment estimates and projected employment and job openings for the counties and the state. Graham and Greenlee counties have been combined due to their close proximity, similar economies, and size. A separate table for La Paz County is not included as development of the survey sample preceded this county's creation.

When using the data, please note the following:

1) The data reflect full and part-time wage and salary employment only, and do not include self-employed or unpaid family workers.

2) Total job openings represent the number of openings due to growth of the industry and separations from the labor force. They do not account for labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are generally the largest source of job openings.

3) To eliminate the possible disclosure of confidential employer information, occupations have been added to the appropriate "All Other" or residual category if: less than three firms reported a single occupation; one firm reported more than 50 percent of the occupational estimate; two firms combined reported more than 75 percent of the occupational estimate. In certain cases, releases have been obtained from large employers to waive the confidentiality criteria.

4) The projection technique does not possess the degree of accuracy that may be implied by small employment and demand figures.

5) Data for occupations with employment of less than five are included in the appropriate "All Other" categories. These occupations are not listed, however, in the summary of "All Other" categories which follows each table.

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	10,686	7.1	12,939	3,673
Financial Managers	601	.4	730	203
Personnel, Training, & Labor Relations Mgrs.	364	.2	440	120
Purchasing Managers	292	.2	362	102
Marketing, Advertising, & Public Rel. Mgrs.	854	.6	1,057	330
Administrative Services Managers	533	.4	672	206
Industrial Production Managers	1,568	1.0	1,869	494
General Managers & Top Executives	3,498	2.3	4,154	1,102
All Other Managers & Administrators	2,976	2.0	3,655	1,116
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	29,991	20.0	36,988	9,448
Management Support Occupations	4,116	2.7	5,049	1,521
Accountants & Auditors	917	.6	1,102	325
Budget Analysts	189	.1	234	73
All Other Financial Specialists	121	.1	142	34
Purchasing Agents & Buyers, Farm Products	17	.0	17	2
Purchasing Agents, Exc. Wholesale, Retail, & Farm	836	.6	1,033	307
Personnel, Training, & Labor Rel. Specialists	780	.5	962	276
Cost Estimators	220	.1	267	96
All Other Management Support Workers	1,036	.7	1,292	408
Engineering & Related Occupations	19,101	12.7	23,842	6,016
Aeronautical and Astronautical Engineers	853	.6	1,073	272
Metallurgical & Materials Engineers	66	.0	72	9
Chemical Engineers	106	.1	132	34
Civil Engineers, Incl. Traffic	65	.0	82	26
Electrical & Electronic Engineers	6,860	4.6	8,497	2,056
Industrial Engineers, Exc. Safety	1,404	.9	1,768	475
Safety Engineers, Exc. Mining	63	.0	78	20
Mechanical Engineers	1,701	1.1	2,068	474
All Other Engineers	935	.6	1,140	272
Civil Engineering Technicians & Technologists	30	.0	39	13
Electrical/Electronic Engineering Technicians	4,094	2.7	5,209	1,357
Industrial Engineering Techs.	176	.1	224	68
Mechanical Engineering Techs.	612	.4	770	179
Drafters	1,131	.8	1,425	389
All Other Engineering & Related Technicians	1,005	.7	1,265	372
Natural Scientists & Related Occupations	528	.4	598	127
Physicists & Astronomers	13	.0	17	5
Chemists, Exc. Biochemists	147	.1	171	41
All Other Physical Scientists	26	.0	31	7
Agricultural & Food Scientists	31	.0	33	7
Biological Scientists	35	.0	37	6
All Other Life Scientists	15	.0	17	3
Biological, Agri., & Food Techs., Exc. Health	65	.0	69	11
Chemical Techs., Exc. Health	186	.1	212	45
All Other Physical & Life Science Techs.	10	.0	11	2
Computer, Math, Research, & Related Occupations	3,499	2.3	4,150	827
Systems Analysts, Electronic Data Processing	1,167	.8	1,380	265
Computer Programmers	1,089	.7	1,264	230
Computer Programmer Aides	288	.2	344	81
Programmers - Numerical, Tool, & Process	228	.2	266	53
Operations & Systems Analysts, Exc. Computer	614	.4	757	162
Statisticians	70	.0	83	22
Mathematical Technicians	43	.0	56	14
Law Related Occupations	14	.0	16	4
Lawyers	14	.0	16	4

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
Teachers, Librarians, & Related Occupations	26	.0	32	12
Teachers & Instructors, Voc. Ed. & Training	8	.0	10	4
Librarians, Professional	18	.0	22	8
Health Practitioners, Techs., & Related Occupations	123	.1	153	53
Writers, Artists, Athletes, & Related	1,740	1.2	2,120	630
Writers & Editors	584	.4	707	229
Technical Writers	254	.2	317	74
Public Rel. Specialists & Publicity Writers	41	.0	49	14
Reporters & Correspondents	445	.3	536	171
Photographers	63	.0	76	20
Artists & Related Workers	99	.1	119	38
Designers, Exc. Interior Designers	254	.2	316	84
All Other Professional, Paraprofessional, & Technical Workers	844	.6	1,028	258
SALES & RELATED OCCUPATIONS	5,154	3.4	6,093	1,693
First Line Supervisors & Managers - Sales	462	.3	539	143
Sales Agents, Advertising	357	.2	427	118
Sales Engineers	494	.3	625	155
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	831	.6	1,000	280
Other Sales Representatives, Exc. Retail	2,294	1.5	2,696	782
Salespersons, Retail	63	.0	62	8
Cashiers	119	.1	115	24
News/Street Vendors, Phone Solicitors, Door-to-Door Sales Workers	125	.1	150	51
All Other Sales & Related Workers	409	.3	479	132
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	19,343	12.9	23,302	7,649
First Line Supervisors & Manager/Supervisors	608	.4	735	215
First Line Supers.-Clerical & Admin. Support	608	.4	735	215
Industry-Specific Clerical & Admin. Support	313	.2	376	117
Advertising Clerks	163	.1	196	69
Proofreaders & Copy Markers	150	.1	180	48
General Office Occupations	10,377	6.9	12,484	4,492
Secretaries	3,146	2.1	3,780	1,405
Stenographers	76	.1	93	35
Receptionists & Information Clerks	200	.1	240	86
Typists	273	.2	328	130
Typists, Word Processing Equipment	213	.1	270	83
Personnel Clerks, Exc. Payroll & Timekeeping	212	.1	257	107
File Clerks	185	.1	225	95
Order Clerks - Materials, Merch., & Service	625	.4	764	280
Procurement Clerks	170	.1	211	62
Statistical Clerks	147	.1	187	74
Interviewing Clerks, Exc. Personnel & Welfare	15	.0	18	5
Bookkeeping, Accounting, & Auditing Clerks	1,638	1.1	1,933	637
Payroll & Timekeeping Clerks	209	.1	246	77
Billing, Cost, & Rate Clerks	526	.4	641	236
General Office Clerks	2,742	1.8	3,291	1,180
Office Machine Operators	1,554	1.0	1,884	578
Billing, Posting, & Calculating Machine Opers.	67	.0	81	27
Duplicating Machine Operators	36	.0	43	16
Mail Machine Operators, Preparation & Handling	62	.0	75	32
Computer Operators, Exc. Peripheral Equipment	493	.3	590	155
Peripheral EDP Equipment Operators	70	.0	86	34

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
Data Entry Keyers, Exc. Composing	543	.4	659	164
Data Keyers, Composing	114	.1	137	54
All Other Office Machine Operators	169	.1	213	96
Communications & Message Distribution	207	.1	249	96
Switchboard Operators	160	.1	192	78
Mail Clerks, Exc. Mail Machine Operators & Postal Service	33	.0	40	13
Messengers	14	.0	17	5
Material Distribution & Recording Occupations	5,230	3.5	6,347	1,941
Dispatchers - Exc. Police, Fire, & Ambulance	180	.1	214	51
Production, Planning, & Expediting Clerks	1,667	1.1	2,048	769
Measurers	174	.1	207	55
Stock Clerks - Stockroom, Warehouse, or Yard	1,553	1.0	1,897	536
Traffic, Shipping, & Receiving Clerks	1,466	1.0	1,755	469
All Other Material Recording/Scheduling/Dist.	190	.1	226	61
All Other Clerical & Administrative Support	1,054	.7	1,227	251
SERVICE OCCUPATIONS	2,072	1.4	2,513	747
First Line Supervisors & Managers - Service	201	.1	250	90
Protective Service Occupations	619	.4	763	178
Guards & Watch Guards	619	.4	763	178
Food & Beverage Preparation	74	.0	91	31
Cleaning & Building Services Occupations	1,109	.7	1,330	424
Janitors & Cleaners, Exc. Maids & Housekeeping	1,076	.7	1,297	418
All Other Cleaning/Building Service, Exc. Private House	33	.0	33	6
All Other Service Occupations	69	.0	79	24
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	471	.3	501	88
First Line Supervisors - Agri., Forestry, & Rel.	43	.0	45	7
Fallers & Buckers	124	.1	132	24
Choke Setters	43	.0	47	9
Log Handling Equipment Operators	45	.0	49	10
Logging Tractor Operators	84	.1	90	13
All Other Timber Cutting & Related Workers	52	.0	54	8
Log Graders & Scalers	31	.0	33	5
Graders & Sorters, Agricultural Products	24	.0	22	4
Gardeners & Groundskeepers, Exc. Farm	21	.0	25	8
All Other Agri., Forestry, Fishing, & Related	4	.0	4	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	82,204	54.8	97,552	25,575
First Line Supervisors & Managers-Prod. & Rel.	5,728	3.8	6,751	1,569
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	426	.3	498	136
First Line Managers/Supervisors - Construction Trades & Extraction Workers	115	.1	130	27
First Line Mgrs./Supers. - Production & Opers.	4,592	3.1	5,452	1,209
First Line Mgrs./Supers. - Transport. Operatives	286	.2	321	93
First Line Mgrs./Supers. - Laborers & Helpers	308	.2	349	104
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	1	.0	1	0
Inspectors & Related Occupations	4,690	3.1	5,733	1,625
Precision Inspectors, Testers, & Graders	2,299	1.5	2,860	848
Production Inspectors, Testers, & Graders	2,391	1.6	2,873	777

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
Mechanics, Installers, & Repairers	5,696	3.8	6,741	1,561
Machinery Maintenance Mechanics	832	.6	982	232
Machinery Maintenance Mechanics, Textiles	45	.0	53	12
Machinery Maintenance Mechs., Sewing Machines	44	.0	51	11
Machinery Maintenance Mechanics, Water & Power Generation Plants	36	.0	41	8
All Other Machinery Maintenance Mechanics	10	.0	11	2
Millwrights	42	.0	46	9
Refractory Matls. Repairers, Exc. Brick Masons	36	.0	36	3
Machinery Maintenance Workers	169	.1	198	50
Maintenance Repairers, General Utility	1,240	.8	1,430	311
Automotive Mechanics	204	.1	226	40
Bus & Truck Mechs., & Diesel Eng. Specialists	233	.1	252	40
Mobile Heavy Equip. Mechanics, Exc. Engines	59	.0	67	11
Aircraft Mechanics	117	.1	149	40
Aircraft Engine Specialists	112	.1	143	36
Data Processing Equipment Repairers	442	.3	478	62
Electronics Repairers, Commercial & Ind. Equip.	436	.3	565	157
All Other Electrical Mechs./Installers/Repairers	16	.0	21	6
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	339	.2	414	109
Precision Instrument Repairers	513	.3	642	180
Installers/Repairers - Manufactured Buildings	21	.0	22	3
Coin & Vending Machine Servicers & Repairers	110	.1	112	12
Menders - Garments, Linens, & Related	31	.0	38	11
All Other Mechanics, Installers, & Repairers	609	.4	764	216
Construction Trades & Extraction	1,734	1.2	1,961	414
Carpenters	510	.3	578	135
Electricians	544	.4	621	133
Brick Masons	11	.0	11	1
Concrete & Terrazzo Finishers	103	.1	114	18
Painters & Paperhangers - Construction & Maintenance	106	.1	131	39
Plumbers, Pipefitters, & Steamfitters	235	.2	262	52
All Other Construction Trades Workers	89	.1	103	20
Extraction & Related Workers - Incl. Blasters	136	.1	141	16
Precision Production Occupations	8,681	5.8	10,252	2,610
Tool & Die Makers	619	.4	741	224
Precision Instrument Makers	10	.0	13	5
Machinists	2,779	1.9	3,226	754
Tool Grinders, Filers, Sharpeners (Precision)	175	.1	208	54
Pattern & Model Makers, Metal	9	.0	11	3
Precision Layout Workers, Metal	114	.1	135	31
Jewelers & Silversmiths	39	.0	54	23
Precision Hand Workers, Jewelry & Related	44	.0	59	21
Precision Etchers & Engravers	9	.0	12	4
Sheet Metal Workers	710	.5	850	194
Boilermakers	124	.1	130	21
All Other Precision Metal Workers	160	.1	193	60
Pattern & Model Makers, Wood (Exc. Carpenters)	24	.0	29	9
Wood Machinists	310	.2	352	79
Cabinetmakers & Bench Carpenters	709	.5	824	179
Furniture Finishers	21	.0	22	2
All Other Precision Woodworkers	89	.1	105	26
Fabric & Apparel Layout & Patternmakers	25	.0	31	9
Upholsterers	81	.1	111	43
Shoe & Leather Workers & Repairers - Precision	28	.0	33	9
All Other Precision Textile & Apparel Workers	10	.0	11	4
Precision Compositors/Typesetters/Arrangers	191	.1	229	69
Job Printers	161	.1	193	58
Precision Lithography & Photoengraving Workers	328	.2	392	84
Bookbinders	37	.0	44	14
All Other Precision Printing Workers	124	.1	147	38

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
Food Batchmakers	161	.1	156	18
Precision Foundry Mold & Core Makers	137	.1	150	25
Precision Molders/Casters, Exc. Jewelry & Foundry	80	.1	99	28
Precision Detail Design Decorators & Painters	135	.1	173	52
Precision Photographic Process Workers	10	.0	12	3
Precision Optical Goods Workers	572	.4	783	317
Gem & Diamond Workers	15	.0	21	7
All Other Precision Workers	366	.2	435	109
Machine Setters, Operatives, & Tenders	22,904	15.3	27,003	6,961
Sawing Machine Tool Set-Up Operators - Metal & Plastic	112	.1	133	35
Lathe/Turning Machine Set-Up Operators - Metal & Plastic	325	.2	380	100
Drilling/Boring Machine Set-Up Operators - Metal & Plastic	163	.1	194	51
Milling/Planing Machine Set-Up Operators - Metal & Plastic	147	.1	175	49
Grinding & Buffing Machine Set-Up Operators - Metal & Plastic	382	.3	445	97
Machine Tool Cutting Operators & Tenders - Metal & Plastic	1,081	.7	1,312	298
Punching Machine Set-Up Operators - Metal & Plastic	162	.1	195	56
Press/Press Brake Machine Set-Up Operators - Metal & Plastic	183	.1	217	56
Shear/Slitter Machine Set-Up Operators - Metal & Plastic	87	.1	101	23
Extruding/Drawing Machine Set-Up Operators - Metal & Plastic	480	.3	514	90
Rolling Mach. Set-Up Opers. - Metal & Plastic	50	.0	55	11
Forging Mach. Set-Up Opers. - Metal & Plastic	25	.0	31	8
Machine Forming Operators & Tenders - Metal & Plastic	705	.5	858	239
Numerical Control Machine Tool Operators - Metal & Plastic	431	.3	500	129
Combination Machine Tool Set-Up Operators - Metal & Plastic	244	.2	301	82
Combination Machine Tool Operators - Metal & Plastic	254	.2	313	95
Welding Machine Setters & Set-Up Operators	209	.1	243	56
Welding Machine Operators & Tenders	194	.1	229	59
Soldering/Brazing Mach. Setters & Set-Up Opers.	7	.0	8	2
Soldering & Brazing Machine Opers. & Tenders	46	.0	54	13
Metal Fabricators, Structural Metal Products	179	.1	210	46
Plastic Molding & Casting Machine Set-Up Opers.	214	.1	260	68
Plastic Molding & Casting Mach. Opers. & Tenders	697	.5	832	233
Metal Molding, Coremaking, & Casting Machine Set-Up	35	.0	40	8
Metal Molding, Coremaking, & Casting Mach. Opers.	33	.0	41	12
Foundry Mold Assembly & Shakeout Workers	53	.0	56	9
Electrolytic Coating Machine Set-Up Operators - Metal & Plastic	265	.2	327	94
Electrolytic Coating Machine Operators - Metal & Plastic	202	.1	239	62
Nonelectrolytic Coating Machine Set-Up - Metal & Plastic	23	.0	28	6
Nonelectrolytic Coating Machine Operators - Metal & Plastic	52	.0	62	16
Heating Equip. Set-Up Opers. - Metal & Plastic	32	.0	35	6
Heat Treating/Tempering Machine Operators - Metal & Plastic	134	.1	147	32

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
Heaters, Metal & Plastic	8	.0	9	2
All Other Metal & Plastic Mach. Set-Up Opers.	45	.0	51	10
All Other Metal & Plastic Machine Operators	393	.3	448	110
Sawing Machine Setters & Set-Up Operators	19	.0	22	5
Head Sawyers	25	.0	27	5
Sawing Machine Operators & Tenders	408	.3	489	131
Woodworking Machine Set-Up Opers., Exc. Sawing	136	.1	161	42
Woodworking Mach. Opers. & Tenders, Exc. Sawing	268	.2	317	81
Offset Litho. Press Setters & Set-Up Opers.	389	.3	464	140
Letter Press Setters & Set-Up Operators	348	.2	414	97
All Other Printing Press Set-Up Operators	55	.0	70	21
Photoengraving & Lithographing Photographers	161	.1	192	41
Speciality Materials Printing Mach. Set-Up Opers.	29	.0	37	12
Screen Printing Machine Setters & Set-Up Opers.	118	.1	152	62
Bindery Machine Setters & Set-Up Operators	124	.1	147	43
Typesetting & Composing Mach. Opers. & Tenders	289	.2	346	135
Printing Press Machine Operators & Tenders	563	.4	673	179
Photoengraving & Lithographing Machine Opers.	28	.0	34	9
Bindery Machine Operators	315	.2	377	100
All Other Printing & Related Machine Opers.	80	.1	97	30
Textile Mach. Opers. - Winding/Weaving/Cutting	260	.2	303	79
Sewing Machine Operators, Garment	2,740	1.8	3,204	850
Sewing Machine Operators, Non-Garment	478	.3	579	169
Shoe Sewing Machine Operators & Tenders	32	.0	37	9
Pressing Machine Opers. - Textile & Garments	61	.0	69	16
Electronic Semiconductor Processors	2,387	1.6	3,085	995
Paper Goods Machine Setters & Set-Up Operators	63	.0	75	19
Cooking Machine Operators & Tenders, Food	59	.0	60	10
Roasting, Baking, & Drying Mach. Opers., Food	115	.1	112	13
Furnace, Kiln, Oven, Drier, or Kettle Opers.	127	.1	143	34
Boiler Operators & Tenders, Low Pressure	55	.0	55	6
Cooling & Freezing Equip. Opers. & Tenders	24	.0	23	3
Dairy Processing Equip. Opers., Incl. Setters	66	.0	63	9
Chemical Equipment Controllers & Operators	75	.1	86	20
Chemical Equipment Tenders	36	.0	40	9
Cutting & Slicing Mach. Setters & Set-Up Opers.	23	.0	26	6
Cutting & Slicing Machine Operators & Tenders	304	.2	347	79
Coating & Painting Machine Set-Up Operators	209	.1	260	77
Coating, Painting, & Spraying Machine Opers.	350	.2	416	109
Cementing & Gluing Machine Operators & Tenders	111	.1	138	41
Cleaning, Washing, & Pickling Equipment Opers.	85	.1	95	20
Separating & Filtering Machine Operators	159	.1	156	18
Crushing, Grinding, & Mixing Machine Operators	754	.5	836	171
Extruding/Forming/Pressing Mach. Set-Up Opers.	123	.1	142	34
Extruding, Forming, & Pressing Machine Opers.	488	.3	577	148
Packaging & Filling Machine Opers. & Tenders	1,408	.9	1,564	323
All Other Machine Setters & Set-Up Operators	252	.2	282	60
All Other Machine Operators & Tenders	812	.5	925	210
Assemblers & Fabricators	20,424	13.6	25,407	8,239
Aircraft Assemblers - Precision	310	.2	404	157
Machine Builders & Assemblers	531	.4	654	175
Fitters, Structural Metal - Precision	121	.1	143	37
Electromech. Equip. Assemblers - Precision	1,523	1.0	1,873	653
Electrical/Electronic Equipment Assemblers - Precision	8,275	5.5	10,602	4,001
All Other Precision Assemblers, Metal	124	.1	147	34
Machine Assemblers	404	.3	495	141
Electrical & Electronic Assemblers	2,196	1.5	2,721	794
Coil Winders, Tapers, & Finishers	184	.1	221	60
Glaziers, Manufacturing	67	.0	81	20
Welders & Cutters	817	.5	945	209
Solderers & Brazers	36	.0	44	12
Pressers, Hand	60	.0	67	14

ESTIMATED EMPLOYMENT AND JOB OPENINGS

MANUFACTURING

STATEWIDE (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PERCENT OF MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	TOTAL JOB OPENINGS 1983-1987
Portable Machine Cutters	39	.0	45	11
Cannery Workers	86	.1	85	10
Meat, Poultry, & Fish Cutters - Hand	87	.1	86	10
Metal Pourers & Casters, Basic Shapes	36	.0	37	4
Molders & Casters, Hand	164	.1	178	30
Painting, Coating, & Decorating Workers, Hand	101	.1	124	33
Grinding & Polishing Workers, Hand	262	.2	324	94
Assemblers/Fabricators - Exc. Machine, Electrical & Precision	3,939	2.6	4,896	1,440
All Other Hand Workers	955	.6	1,104	263
Plant & System Occupations	192	.1	217	49
Chemical Plant & System Operators	15	.0	17	4
Stationary Engineers	69	.0	78	17
All Other Plant & System Operators	108	.1	122	28
Transportation & Material Moving Workers	6,025	4.0	6,638	1,103
Truck Drivers, Heavy or Tractor Trailer	1,917	1.3	2,128	361
Truck Drivers, Light - Incl. Delivery & Route	1,086	.7	1,218	218
Driving Sales Workers	921	.6	978	124
All Other Motor Vehicle Operators	88	.1	111	30
All Rail Vehicle Opers. & Controllers	5	.0	5	0
All Other Transportation & Related Workers	28	.0	28	3
Grader, Dozer, & Scraper Operators	40	.0	42	7
Hoist & Winch Operators	17	.0	18	3
Crane & Tower Operators	202	.1	215	28
Industrial Truck & Tractor Operators	1,062	.7	1,181	202
Conveyor Operators & Tenders	249	.2	272	52
Pump Operators	175	.1	192	38
Operating Engineers	119	.1	135	28
All Other Material Moving Equipment Operators	116	.1	115	9
Helpers, Laborers, & Material Movers, Hand	6,130	4.1	6,849	1,444
Mechanic & Repairer Helpers	186	.1	211	47
Construction & Extraction Worker Helpers	222	.1	240	44
Machine Feeders & Offbearers	830	.6	939	209
Freight, Stock, & Material Movers, Hand	1,150	.8	1,312	300
Hand Packers & Packagers	960	.6	1,087	241
Vehicle Washers & Equipment Cleaners	15	.0	15	0
All Other Helpers & Laborers	2,767	1.8	3,045	603
TOTAL ALL OCCUPATIONS	149,921	100.0	179,888	48,914

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Life Scientists
  Foresters & Conservation Scientists

All Other Health Professionals, Paraprofessionals, & Technical Workers
  Opticians, Dispensing & Measuring

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Electrical Mechs./Installers/Repairers
  Electrical Installers & Repairers, Transportation Equipment

All Other Mechanics, Installers, & Repairers
  Mechanical Control & Valve Installers & Repairers
  Riggers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Precision Woodworkers
  Precision Woodworkers
  Pattern Markers, Wood

All Other Precision Workers
  Medical Appliance Makers

All Other Printing Press Set-up Operators
  Printing Press Machine Setters & Set-up Operators

All Other Machine Setters & Set-up Operators
  Textile Machine Setters & Set-up Operators

All Other Machine Operators & Tenders
  Painters, Transportation Equipment

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

APACHE COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	14	15	1	1	2
General Managers & Top Executives	9	10	1	1	2
All Other Managers & Administrators	5	5	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	10	11	1	1	2
All Financial Specialists	4	5	1	1	2
All Other Management Support Workers	2	2	0	0	0
All Engineers	2	2	0	0	0
Electrical/Electronic Engineering Technicians	2	2	0	0	0
SALES & RELATED OCCUPATIONS	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	39	45	6	8	14
Stock Clerks - Stockroom, Warehouse, or Yard	5	6	1	1	2
All Other Material Recording/Scheduling/Dist.	18	21	3	3	6
All Other Clerical & Administrative Support	16	18	2	4	6
SERVICE OCCUPATIONS	3	3	0	1	1
All Cleaning/Building Service, Exc. Private House	3	3	0	1	1
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	56	61	5	4	9
Log Handling Equipment Operators	8	9	1	1	2
Logging Tractor Operators	27	30	3	2	5
All Other Timber Cutting & Related Workers	13	14	1	1	2
All Other Agri., Forestry, Fishing, & Related	8	8	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	307	361	54	42	96
All First Line Managers/Supervisors - Maintenance/Production/Construction	19	22	3	2	5
Precision Inspectors, Testers, & Graders	39	48	9	5	14
All Other Inspectors, Testers, & Related	7	8	1	1	2
All Machinery Maintenance Mechanics	6	7	1	1	2
All Other Mechanics, Installers, & Repairers	12	13	1	1	2
All Construction Trades Workers	9	10	1	0	1
All Precision Metal Workers	3	3	0	0	0
All Metal & Plastic Machine Operators	19	21	2	1	3
Plastic Molding & Casting Mach. Opers. & Tenders	15	18	3	2	5
All Other Machine Operators & Tenders	42	47	5	5	10
All Precision Assemblers, Metal	111	136	25	22	47
Truck Drivers, Heavy or Tractor Trailer	6	7	1	0	1
All Other Material Moving Equipment Operators	3	3	0	0	0
All Helpers & Laborers	16	18	2	2	4
TOTAL ALL OCCUPATIONS	430	497	67	57	124

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Other Material Recording/Scheduling/Dist.
Weighers, Measurers, & Checkers - Records
Traffic, Shipping, & Receiving Clerks

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All First Line Managers/Supervisors - Maintenance/Production/Construction
First Line Mgrs./Supers. - Production & Opers.
First Line Mgrs./Supers. - Laborers & Helpers

All Other Inspectors, Testers, & Related
Production Inspectors, Testers, & Graders

All Other Mechanics, Installers, & Repairers
Machinery Maintenance Workers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Construction Trades Workers
Concrete & Terrazzo Finishers

All Other Machine Operators & Tenders
Head Sawyers
Sawing Machine Operators & Tenders
Woodworking Mach. Opers. & Tenders, Exc. Sawing

All Precision Assemblers, Metal
Electrical/Electronic Equipment Assemblers-Precision

All Helpers & Laborers
Machine Feeders & Offbearers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

COCHISE COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	68	82	14	9	23
Industrial Production Managers	6	7	1	1	2
General Managers & Top Executives	36	43	7	5	12
All Other Managers & Administrators	26	32	6	3	9
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	130	154	24	12	36
Accountants & Auditors	5	6	1	1	2
All Other Management Support Workers	7	8	1	1	2
Industrial Engineers, Exc. Safety	6	7	1	0	1
All Other Engineers	15	17	2	0	2
Electrical/Electronic Engineering Technicians	9	11	2	1	3
Drafters	8	10	2	1	3
All Other Engineering & Related Technicians	2	2	0	0	0
Chemists, Exc. Biochemists	13	14	1	1	2
Computer Programmers	19	23	4	1	5
All Health Professionals, Paraprofessionals, & Technicians	1	1	0	0	0
Writers & Editors	12	15	3	2	5
Reporters & Correspondents	14	17	3	3	6
All Other Professional, Paraprofessional, & Technical Workers	19	23	4	1	5
SALES & RELATED OCCUPATIONS	29	35	6	0	6
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	148	175	27	27	54
Secretaries	20	24	4	5	9
Bookkeeping, Accounting, & Auditing Clerks	24	28	4	5	9
General Office Clerks	34	40	6	7	13
All Office Machine Operators	4	5	1	0	1
All Communication Equipment Operators	2	2	0	1	1
All Material Recording/Scheduling/Dist.	10	12	2	1	3
Stock Clerks - Stockroom, Warehouse, or Yard	9	11	2	1	3
Traffic, Shipping, & Receiving Clerks	9	11	2	1	3
All Other Clerical & Administrative Support	36	42	6	6	12
SERVICE OCCUPATIONS	24	27	3	4	7
Guards & Watch Guards	10	10	0	1	1
Janitors & Cleaners, Exc. Maids & Housekeeping	14	17	3	3	6
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	4	4	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,029	1,137	109	109	218
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	15	16	1	2	3
First Line Mgrs./Supers. - Production & Opers.	68	73	5	5	10
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	4	4	0	0	0
Production Inspectors, Testers, & Graders	29	32	3	3	6
All Other Inspectors, Testers, & Graders	3	4	1	0	1
All Machinery Maintenance Mechanics	10	12	2	0	2
Refractory Matls. Repairers, Exc. Brick Masons	5	5	0	0	0
Maintenance Repairers, General Utility	35	39	4	3	7
Precision Instrument Repairers	8	8	0	1	1
All Other Mechanics, Installers, & Repairers	16	19	3	1	4
Electricians	14	14	0	1	1
Plumbers, Pipefitters, & Steamfitters	16	16	0	2	2
All Other Construction Trades Workers	7	7	0	1	1
Extraction & Related Workers - Incl. Blasters	11	11	0	1	1
Tool & Die Makers	5	6	1	1	2
Machinists	28	31	3	3	6
All Other Precision Metal Workers	4	4	0	0	0
Precision Compositors/Typesetters/Arrangers	5	6	1	1	2
All Other Precision Printing Workers	5	6	1	0	1
All Precision Food & Tobacco Workers	2	2	0	0	0
All Other Precision Workers	6	7	1	1	2

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

COCHISE COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1997	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Furnace Operators & Tenders	32	31	0	4	4
All Metal & Plastic Mach. Set-Up Opers.	9	10	1	0	1
All Metal & Plastic Machine Operators	1	1	0	0	0
All Printing & Related Machine Opers.	13	16	3	2	5
Sewing Machine Operators, Garment	153	169	16	20	36
Sewing Machine Operators, Non-Garment	16	19	3	2	5
Boiler Operators & Tenders, Low Pressure	7	7	0	1	1
Coating, Painting, & Spraying Machine Opers.	11	13	2	1	3
Separating & Filtering Machine Operators	7	7	0	1	1
Crushing, Grinding, & Mixing Machine Operators	16	18	2	2	4
All Other Machine Operators & Tenders	13	16	3	1	4
Electrical/Electronic Equipment Assemblers - Precision	22	27	5	4	9
All Other Precision Assemblers, Metal	4	5	1	1	2
Coil Winders, Tapers, & Finishers	14	17	3	2	5
Welders & Cutters	3	4	1	0	1
Pressers, Hand	28	31	3	3	6
Metal Pourers & Casters, Basic Shapes	7	7	0	1	1
All Other Hand Workers	49	50	1	5	6
Stationary Engineers	21	22	1	2	3
All Other Plant & System Operators	46	54	8	5	13
Truck Drivers, Heavy or Tractor Trailer	52	61	9	4	13
Truck Drivers, Light - Incl. Delivery & Route	16	19	3	1	4
All Other Motor Vehicle Operators	11	14	3	1	4
Hoist & Winch Operators	6	6	0	1	1
Crane & Tower Operators	15	15	0	1	1
Industrial Truck & Tractor Operators	10	12	2	1	3
Conveyor Operators & Tenders	7	7	0	1	1
All Other Material Moving Equipment Operators	5	5	0	0	0
All Other Freight & Material Movers, Hand	8	9	1	1	2
All Other Helpers & Laborers	131	143	12	15	27
TOTAL ALL OCCUPATIONS	1,432	1,614	183	161	344

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows.

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Professionals, Paraprofessionals, & Technical Workers
 Systems Analysts, Electronic Data Processing

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Other Clerical & Administrative Support
 Advertising Clerks

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Mechanics, Installers, & Repairers
 Bus & Truck Mechs., & Diesel Eng. Specialists

All Printing & Related Machine Opers.
 Printing Press Machine Operators & Tenders

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Machine Operators & Tenders
 Furnace, Kiln, Oven, Drier, or Kettle Opers.

All Other Hand Workers
 Meat, Poultry, & Fish Cutters - Hand

All Other Motor Vehicle Operators
 Driving Sales Workers

All Other Helpers & Laborers
 Construction & Extraction Worker Helpers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

COCONINO COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	150	171	21	19	40
Personnel, Training, & Labor Relations Mgrs.	5	6	1	1	2
Industrial Production Managers	14	16	2	2	4
General Managers & Top Executives	83	96	13	11	24
All Other Managers & Administrators	48	53	5	5	10
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	182	210	28	17	45
Accountants & Auditors	13	15	2	2	4
Purchasing Agents, Exc. Wholesale, Retail, & Farm	12	14	2	2	4
All Other Management Support Workers	12	13	1	1	2
All Engineers	24	27	3	1	4
Mechanical Engineering Techs.	34	41	7	1	8
Drafters	6	7	1	1	2
All Other Engineering & Related Technicians	12	12	0	1	1
All Physical Scientists	3	4	1	0	1
All Life Scientists	11	12	1	1	2
All Physical & Life Science Techs.	17	19	2	2	4
Writers & Editors	9	11	2	2	4
Reporters & Correspondents	16	20	4	3	7
All Other Professional, Paraprofessional, & Technical Workers	13	15	2	0	2
SALES & RELATED OCCUPATIONS	83	99	16	12	28
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	251	287	36	46	82
Proofreaders & Copy Markers	6	7	1	1	2
Secretaries	48	56	8	11	19
Order Clerks - Materials, Merch., & Service	32	37	5	7	12
Bookkeeping, Accounting, & Auditing Clerks	25	29	4	5	9
Payroll & Timekeeping Clerks	8	9	1	1	2
Billing, Cost & Rate Clerks	14	15	1	1	2
General Office Clerks	26	30	4	6	10
All Office Machine Operators	12	13	1	1	2
All Communication Equipment Operators	4	4	0	1	1
Production, Planning, & Expediting Clerks	8	9	1	2	3
Measurers & Samplers - Recordkeeping	6	7	1	1	2
Stock Clerks - Stockroom, Warehouse, or Yard	16	19	3	2	5
Traffic, Shipping, & Receiving Clerks	26	30	4	3	7
All Other Material Recording/Scheduling/Dist.	1	1	0	0	0
All Other Clerical & Administrative Support	19	21	2	4	6
SERVICE OCCUPATIONS	49	58	9	9	18
All Service Supervisors & Managers	3	4	1	1	2
Guards & Watch Guards	5	6	1	0	1
All Food Service Workers	1	1	0	0	0
Janitors & Cleaners, Exc. Maids & Housekeeping	26	30	4	5	9
All Other Cleaning/Building Service, Exc. Private House	1	1	0	0	0
All Other Service Workers	13	16	3	3	6
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	71	78	7	4	11
All Timber Cutting & Related Workers	59	65	6	3	9
Log Graders & Scalers	11	12	1	1	2
All Other Agri., Forestry, Fishing, & Related	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,432	1,642	211	157	368
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	16	19	3	2	5
First Line Mgrs./Supers. - Production & Opers.	72	83	11	5	16
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	11	13	2	2	4
Production Inspectors, Testers, & Graders	58	70	12	7	19

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

COCONINO COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
All Other Inspectors, Testers, & Related	7	7	0	1	1
Machinery Maintenance Mechanics	33	40	7	3	10
All Other Machinery Maintenance Mechanics	3	3	0	0	0
Machinery Maintenance Workers	17	20	3	2	5
Maintenance Repairers, General Utility	16	19	3	1	4
Automotive Mechanics	5	6	1	0	1
All Other Mechanics, Installers, & Repairers	17	18	1	1	2
Carpenters	8	9	1	1	2
Electricians	24	27	3	2	5
All Other Construction Trades Workers	1	1	0	0	0
Machinists	68	80	12	7	19
All Other Precision Metal Workers	3	3	0	0	0
All Precision Woodworkers	51	57	6	6	12
All Precision Printing Workers	3	4	1	0	1
All Precision Food & Tobacco Workers	2	2	0	0	0
Medical Appliance Makers	69	84	15	9	24
All Other Precision Workers	17	20	3	1	4
All Metal & Plastic Mach. Set-Up Opers.	1	1	0	0	0
All Metal & Plastic Machine Operators	104	103	0	12	12
Sawing Machine Operators & Tenders	54	60	6	6	12
Woodworking Mach. Opers. & Tenders, Exc. Sawing	22	24	2	3	5
All Printing Press Set-Up Operators	3	4	1	0	1
All Printing Setters & Set-Up Opers.	7	9	2	0	2
Typesetting & Composing Mach. Opers. & Tenders	12	15	3	3	6
Printing Press Machine Operators & Tenders	14	17	3	2	5
All Other Printing & Related Machine Opers.	4	5	1	0	1
Electronic Semiconductor Processors	30	36	6	4	10
Crushing, Grinding, & Mixing Machine Operators	56	66	10	7	17
Packaging & Filling Machine Opers. & Tenders	61	75	14	7	21
All Other Machine Setters & Set-Up Operators	18	20	2	2	4
All Other Machine Operators & Tenders	111	127	16	15	31
Electrical/Electronic Equipment Assemblers - Precision	19	23	4	4	8
Assemblers/Fabricators - Exc. Machine, Electrical, & Precision	10	12	2	1	3
All Other Hand Workers	9	10	1	1	2
All Plant & System Operators	1	1	0	0	0
Truck Drivers, Heavy or Tractor Trailer	45	51	6	3	9
Truck Drivers, Light - Incl. Delivery & Route	22	26	4	2	6
Driving Sales Workers	25	31	6	2	8
All Other Transportation & Related Workers	4	4	0	0	0
Industrial Truck & Tractor Operators	24	29	5	2	7
All Other Material Moving Equipment Operators	182	201	19	20	39
Freight, Stock, & Material Movers, Hand	18	20	2	2	4
All Other Helpers & Laborers	75	87	12	9	21
TOTAL ALL OCCUPATIONS	2,218	2,545	328	264	592

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Engineers
Mechanical Engineers

All Other Engineering & Related Technicians
Electrical/Electronic Engineering Technicians

All Life Scientists
Foresters & Conservation Scientists

All Physical & Life Science Techs.
Chemical Techs., Exc. Health

SALES & RELATED OCCUPATIONS

Sales Engineers
Other Sales Representatives, Exc. Retail

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Office Machine Operators
Data Keyers, Composing

All Other Clerical & Administrative Support
Receptionists & Information Clerks

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

COCONINO COUNTY (CONTD.)

AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS

- All Timber Cutting & Related Workers
  - Fallers & Buckers
  - Log Handling Equipment Operators
  - Logging Tractor Operators

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

- All Other First Line Managers/Supervisors - Maintenance/Production/Construction
  - First Line Managers/Supervisors - Construction Trades & Extraction Workers

- All Other Inspectors, Testers, & Related
  - Precision Inspectors, Testers, & Graders

- All Other Mechanics, Installers, & Repairers
  - Coin & Vending Machine Servicers & Repairers

- All Precision Woodworkers
  - Wood Machinists
  - Cabinetmakers & Bench Carpenters

- All Other Precision Workers
  - Precision Molders/Casters, Exc. Jewelry & Foundry

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

- All Metal & Plastic Machine Operators
  - Machine Tool Cutting Operators & Tenders - Metal & Plastic

- All Printing Setters & Set-Up Opers.
  - Photoengraving & Lithographing Photographers

- All Other Machine Setters & Set-Up Operators
  - Paper Goods Machine Setters & Set-Up Operators

- All Other Machine Operators & Tenders
  - Head Sawyers
  - Sewing Machine Operators, Garment
  - Cooking Machine Operators & Tenders, Food
  - Roasting, Baking, & Drying Mach. Opers., Food
  - Boiler Operators & Tenders, Low Pressure
  - Coating, Painting, & Spraying Machine Opers.
  - Cementing & Gluing Machine Operators & Tenders

- All Other Material Moving Equipment Operators
  - Grader, Dozer, & Scraper Operators
  - Pump Operators

- All Other Helpers & Laborers
  - Construction & Extraction Worker Helpers
  - Machine Feeders & Offbearers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

GILA COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	25	29	4	3	7
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	44	46	2	3	5
All Financial Specialists	1	1	0	0	0
All Other Management Support Workers	2	2	0	0	0
Metallurgical & Materials Engineers	12	12	0	1	1
All Other Engineers	5	5	0	0	0
All Engineering & Related Technicians	5	5	0	0	0
All Physical Scientists	6	6	0	0	0
All Physical & Life Science Techs.	1	1	0	0	0
All Health Professionals, Paraprofessionals, & Technicians	2	2	0	0	0
Writers & Editors	5	6	1	1	2
All Other Professional, Paraprofessional, & Technical Workers	5	6	1	1	2
SALES & RELATED OCCUPATIONS	12	15	3	2	5
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	77	82	5	14	19
Secretaries	16	18	2	4	6
Bookkeeping, Accounting, & Auditing Clerks	23	24	1	4	5
General Office Clerks	6	7	1	1	2
All Office Machine Operators	7	8	1	2	3
All Communication Equipment Operators	1	1	0	0	0
All Material Recording/Scheduling/Dist.	14	14	0	2	2
All Other Clerical & Administrative Support	10	10	0	1	1
SERVICE OCCUPATIONS	10	10	0	2	2
All Service Supervisors & Managers	1	1	0	0	0
All Protective Service Workers	2	2	0	0	0
All Food Service Workers	3	3	0	1	1
All Cleaning/Building Service, Exc. Private House	4	4	0	1	1
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	10	11	1	1	2
First Line Supervisors - Agri., Forestry, & Rel.	4	4	0	0	0
Log Graders & Scalers	6	7	1	1	2
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,115	1,101	15	108	123
First Line Mgrs./Supers. - Production & Opers.	107	104	0	7	7
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	28	28	0	5	5
All Inspectors, Testers, & Related	6	6	0	0	0
All Machinery Maintenance Mechanics	27	26	0	2	2
Maintenance Repairers, General Utility	20	20	0	2	2
Automotive Mechanics	10	10	0	1	1
All Other Mechanics, Installers, & Repairers	36	35	1	2	3
Electricians	47	45	0	4	4
All Other Construction Trades Workers	45	44	0	4	4
All Extraction Workers, Exc. Helpers	1	1	0	0	0
All Precision Metal Workers	109	105	0	12	12
All Precision Printing Workers	3	3	0	0	0
All Other Precision Workers	1	1	0	0	0
Heat Treating/Tempering Machine Operators - Metal & Plastic	55	53	0	7	7
Furnace Operators & Tenders	60	58	0	7	7
All Metal & Plastic Mach. Set-Up Opers.	44	43	0	4	4
Woodworking Machine Set-Up Opers., Exc. Sawing	6	7	1	1	2
All Printing & Related Machine Opers.	8	9	1	0	1
All Other Machine Setters & Set-Up Operators	11	15	4	1	5
All Other Machine Operators & Tenders	57	55	0	6	6
All Hand Workers	3	4	1	0	1
All Plant & System Operators	5	5	0	1	1
Truck Drivers, Heavy or Tractor Trailer	42	46	4	3	7

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

GILA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
All Other Motor Vehicle Operators	3	4	1	0	1
All Rail Vehicle Opers. & Controllers	5	5	0	0	0
Industrial Truck & Tractor Operators	23	25	2	2	4
All Other Material Moving Equipment Operators	77	74	0	6	6
Construction & Extraction Worker Helpers	32	31	0	4	4
All Freight & Material Movers, Hand	1	1	0	0	0
All Other Helpers & Laborers	243	238	0	27	27
TOTAL ALL OCCUPATIONS	1,293	1,294	30	133	163

Confidential data for certain occupations have been added to "All" or "All Other categories or collapsed into major occupational classes as follows:

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Material Recording/Scheduling/Dist.
 Measurers & Samplers - Recordkeeping
 Stock Clerks - Stockroom, Warehouse, or Yard

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other First Line Managers/Supervisors - Maintenance/Production/Construction
 First Line Managers/Supervisors - Construction Trades & Extraction Workers
 First Line Mgrs./Supers. - Transport. Operatives
 First Line Mgrs./Supers. - Laborers & Helpers

All Machinery Maintenance Mechanics
 Machinery Maintenance Mechanics

All Other Mechanics, Installers, & Repairers
 Refractory Matls. Repairers, Exc. Brick Masons
 Precision Instrument Repairers

All Other Construction Trades Workers
 Carpenters
 Plumbers, Pipefitters, & Steamfitters

All Precision Metal Workers
 Machinists
 Boilermakers

All Metal & Plastic Mach. Set-Up Opers.
 Extruding/Drawing Machine Set-Up Operators - Metal & Plastic
 Heating Equip. Set-Up Opers. - Metal & Plastic

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Machine Setters & Set-Up Operators
 Coating & Painting Machine Set-Up Operators

All Other Machine Operators & Tenders
 Separating & Filtering Machine Operators
 Crushing, Grinding, & Mixing Machine Operators

All Plant & System Operators
 Stationary Engineers

All Other Material Moving Equipment Operators
 Crane & Tower Operators
 Conveyor Operators & Tenders

All Freight & Material Movers, Hand
 Freight, Stock, & Material Movers, Hand

All Other Helpers & Laborers
 Mechanic & Repairer Helpers
 Machine Feeders & Offbearers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

GRAHAM & GREENLEE COUNTIES

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	12	14	2	0	2
General Managers & Top Executives	11	13	2	0	2
All Other Managers & Administrators	1	1	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	15	16	1	0	1
All Financial Specialists	2	2	0	0	0
Metallurgical & Materials Engineers	6	6	0	0	0
All Other Engineering & Related Technicians	1	1	0	0	0
All Other Professional, Paraprofessional, & Technical Workers	6	7	1	0	1
SALES & RELATED OCCUPATIONS	9	11	2	1	3
All Sales Representatives & Salespersons, Service	3	4	1	0	1
All Other Sales & Related Workers	6	7	1	1	2
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	26	30	4	5	9
Secretaries	1	1	0	0	0
General Office Clerks	12	14	2	3	5
All Office Machine Operators	3	4	1	1	2
All Material Recording/Scheduling/Dist.	2	2	0	0	0
All Other Clerical & Administrative Support	8	9	1	1	2
SERVICE OCCUPATIONS	4	4	0	1	1
All Cleaning/Building Service, Exc. Private House	4	4	0	1	1
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	380	381	10	35	45
First Line Managers/Supervisors - Mechanics/Installers/Repairers	9	9	0	1	3
First Line Managers/Supervisors - Construction Trades & Extraction Workers	35	34	0	3	1
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	3	3	0	0	0
All Inspectors, Testers, & Related	7	7	0	1	1
Maintenance Repairers, General Utility	27	26	0	2	2
All Other Machinery Maintenance Mechanics	1	1	0	0	0
Coin & Vending Machine Servicers & Repairers	5	6	1	0	1
All Construction Trades Workers	4	4	0	0	0
All Precision Printing Workers	4	5	1	1	2
All Precision Food & Tobacco Workers	4	4	0	0	0
Furnace Operators & Tenders	99	95	0	11	11
All Other Machine Operators & Tenders	9	10	1	0	1
All Hand Workers	5	5	0	0	0
Driving Sales Workers	19	23	4	1	5
All Other Motor Vehicle Operators	3	4	1	0	1
Crane & Tower Operators	7	7	0	0	0
Industrial Truck & Tractor Operators	30	32	2	2	4
All Other Material Moving Equipment Operators	8	8	0	1	1
Mechanic & Repairer Helpers	24	23	0	3	3
Machine Feeders & Offbearers	15	14	0	2	2
All Other Helpers & Laborers	62	61	0	7	7
TOTAL ALL OCCUPATIONS	446	456	19	42	61

Confidential data for certain occupations have been added to "All" or "All Other categories or collapsed into major occupational classes as follows:

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Inspectors, Testers, & Related	All Other Helpers & Laborers
Production Inspectors, Testers, & Graders	Hand Packers & Packagers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MARICOPA COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	7,638	9,223	1,585	1,014	2,599
Financial Managers	478	577	99	59	158
Personnel, Training, & Labor Relations Mgrs.	292	352	60	36	96
Purchasing Managers	189	233	44	20	64
Marketing, Advertising, & Public Rel. Mgrs.	775	958	183	115	298
Administrative Services Managers	421	527	106	54	160
Industrial Production Managers	1,309	1,544	235	162	397
General Managers & Top Executives	2,514	2,981	467	322	789
All Other Managers & Administrators	1,660	2,051	391	246	637
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	22,420	27,678	5,259	1,846	7,105
Accountants & Auditors	740	884	144	113	257
Budget Analysts	181	224	43	27	70
All Other Financial Specialists	103	118	15	11	26
Purchasing Agents & Buyers, Farm Products	13	12	0	1	1
Purchasing Agents, Exc. Wholesale, Retail, & Farm	629	776	147	84	231
Personnel, Training, & Labor Rel. Specialists	655	809	154	80	234
Cost Estimators	199	242	43	44	87
All Other Management Support Workers	771	966	195	114	309
Aeronautical and Astronautical Engineers	816	1,027	211	51	262
Metallurgical & Materials Engineers	33	38	5	1	6
Chemical Engineers	71	88	17	5	22
Civil Engineers, Incl. Traffic	62	78	16	9	25
Electrical & Electronic Engineers	5,215	6,444	1,229	321	1,550
Industrial Engineers, Exc. Safety	989	1,225	236	79	315
Safety Engineers, Exc. Mining	51	64	13	4	17
Mechanical Engineers	822	1,016	194	52	246
All Other Engineers	741	892	151	54	205
Civil Engineering Technicians & Technologists	29	37	8	4	12
Electrical/Electronic Engineering Technicians	3,569	4,534	965	214	1,179
Industrial Engineering Techs.	83	102	19	9	28
Mechanical Engineering Techs.	507	638	131	18	149
Drafters	919	1,159	240	78	318
All Other Engineering & Related Technicians	681	868	187	77	264
Physicists & Astronomers	13	17	4	1	5
Chemists, Exc. Biochemists	102	120	18	12	30
All Other Physical Scientists	13	16	3	1	4
Agricultural & Food Scientists	31	33	2	5	7
Biological Scientists	35	37	2	4	6
All Other Life Scientists	3	4	1	0	1
Biological, Agri., & Food Techs., Exc. Health	64	68	4	7	11
Chemical Techs., Exc. Health	139	159	20	15	35
All Other Physical & Life Science Techs.	4	4	0	0	0
Systems Analysts, Electronic Data Processing	949	1,108	159	42	201
Computer Programmers	681	788	107	35	142
Computer Programmer Aides	255	302	47	22	69
Programmers - Numerical, Tool, & Process	69	86	17	5	22
Operations & Systems Analysts, Exc. Computer	301	383	82	9	91
Statisticians	47	56	9	6	15
Lawyers	10	11	1	1	2
Health Practitioners, Technicians, & Related	47	56	9	11	20
All Other Health Diagnosing/Treating Practitioners	2	2	0	0	0
All Other Health Professionals, Paraprofessionals, & Technicians	66	86	20	11	31
Writers & Editors	402	487	85	74	159
Technical Writers	232	288	56	10	66
Public Rel. Specialists & Publicity Writers	36	42	6	6	12
Reporters & Correspondents	233	278	45	42	87
Photographers	39	47	8	4	12
Artists & Related Workers	65	78	13	12	25
Designers, Exc. Interior Designers	176	220	44	15	59
All Other Professional, Paraprofessional, & Technical Workers	527	661	134	46	180

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
SALES & RELATED OCCUPATIONS	4,050	4,799	752	589	1,341
First Line Supervisors & Managers - Sales	378	437	59	55	114
Sales Agents, Advertising	316	378	62	44	106
Sales Engineers	441	558	117	22	139
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	726	869	143	98	241
Other Sales Representatives, Exc. Retail	1,722	2,034	312	289	601
Cashiers	81	78	0	16	16
All Other Sales & Related Workers	386	445	59	65	124
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	13,495	16,292	2,797	2,603	5,400
First Line Supers.-Clerical & Admin. Support	497	606	109	68	177
Advertising Clerks	103	123	20	22	42
Proofreaders & Copy Markers	115	137	22	13	35
Secretaries	2,394	2,870	476	564	1,040
Stenographers	51	60	9	11	20
Receptionists & Information Clerks	162	194	32	36	68
Typists	200	238	38	53	91
Typists, Word Processing Equipment	138	174	36	17	53
Personnel Clerks, Exc. Payroll & Timekeeping	172	207	35	49	84
File Clerks	167	203	36	47	83
Order Clerks - Materials, Merch., & Service	498	610	112	108	220
Procurement Clerks	106	128	22	12	34
Statistical Clerks	132	168	36	30	66
Bookkeeping, Accounting, & Auditing Clerks	1,190	1,400	210	239	449
Payroll & Timekeeping Clerks	145	172	27	27	54
Billing, Cost & Rate Clerks	454	551	97	101	198
General Office Clerks	1,707	2,063	356	379	735
Billing, Posting, & Calculating Machine Opers.	60	73	13	12	25
Duplicating Machine Operators	22	26	4	5	9
Mail Machine Operators, Preparation & Handling	33	39	6	10	16
Computer Operators, Exc. Peripheral Equipment	283	335	52	31	83
Peripheral EDP Equipment Operators	56	68	12	14	26
Data Entry Keyers, Exc. Composing	419	502	83	34	117
Data Keyers, Composing	67	80	13	18	31
All Other Office Machine Operators	151	192	41	45	86
Switchboard Operators	123	148	25	34	59
Mail Clerks, Exc. Mail Machine Operators & Postal Service	15	18	3	3	6
Messengers	14	17	3	2	5
Dispatchers - Exc. Police, Fire, & Ambulance	144	171	27	13	40
Production, Planning, & Expediting Clerks	1,199	1,472	273	268	541
Measurers & Samplers - Recordkeeping	112	137	25	14	39
Stock Clerks - Stockroom, Warehouse, or Yard	1,125	1,392	267	132	399
Traffic, Shipping, & Receiving Clerks	1,076	1,291	215	126	341
All Other Material Recording/Scheduling/Dist.	151	177	26	19	45
All Other Clerical & Administrative Support	214	250	36	47	83
SERVICE OCCUPATIONS	1,535	1,852	317	228	545
First Line Supers. & Mgrs./Supers. - Service	148	180	32	31	63
Guards & Watch Guards	485	595	110	29	139
Food & Beverage Service Occupations	64	80	16	12	28
Janitors & Cleaners, Exc. Maids & Housekeeping	783	941	158	146	304
All Other Cleaning/Building Service, Exc. Private House	31	31	0	5	5
All Other Service Workers	24	25	1	5	6
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	152	159	8	19	27
All Timber Cutting & Related Workers	107	112	5	11	16
Graders & Sorters, Agricultural Products	24	23	0	4	4
Gardeners & Groundskeepers, Exc. Farm	13	16	3	3	6
All Other Agri., Forestry, Fishing, & Related	8	8	0	1	1

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	58,291	69,370	11,469	6,999	18,468
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	264	310	46	39	85
First Line Managers/Supervisors - Construction Trades & Extraction Workers	60	73	13	6	19
First Line Mgrs./Supers. - Production & Opers.	3,246	3,889	643	232	875
First Line Mgrs./Supers. - Transport. Operatives	178	201	23	36	59
First Line Mgrs./Supers. - Laborers & Helpers	182	209	27	37	64
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	1	1	0	0	0
Precision Inspectors, Testers, & Graders	1,645	2,043	398	197	595
Production Inspectors, Testers, & Graders	1,736	2,082	346	206	552
Machinery Maintenance Mechanics	598	712	114	56	170
Machinery Maintenance Mechanics, Textiles	12	15	3	1	4
Machinery Maintenance Mechs., Sewing Machines	15	19	4	1	5
Machinery Maintenance Mechanics, Water & Power Generation Plants	20	22	2	2	4
All Other Machinery Maintenance Mechanics	6	7	1	0	1
Millwrights	35	38	3	5	8
Machinery Maintenance Workers	115	139	24	13	37
Maintenance Repairers, General Utility	804	929	125	75	200
Automotive Mechanics	99	106	7	8	15
Bus & Truck Mechs., & Diesel Eng. Specialists	193	207	14	17	31
Mobile Heavy Equip. Mechanics, Exc. Engines	24	26	2	1	3
Aircraft Mechanics	53	67	14	3	17
Aircraft Engine Specialists	58	73	15	2	17
Data Processing Equipment Repairers	415	450	35	23	58
Electronics Repairers, Commercial & Ind. Equip.	334	433	99	20	119
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	319	390	71	30	101
Precision Instrument Repairers	265	341	76	25	101
Installers/Repairers - Manufactured Buildings	19	20	1	2	3
Coin & Vending Machine Servicers & Repairers	59	56	0	5	5
All Other Mechanics, Installers, & Repairers	521	650	129	51	180
Carpenters	434	494	60	56	116
Electricians	335	392	57	33	90
Concrete & Terrazzo Finishers	79	86	7	6	13
Painters & Paperhangers - Construction & Maintenance	75	91	16	10	26
Plumbers, Pipefitters, & Steamfitters	129	153	24	13	37
All Other Construction Trades Workers	82	94	12	5	17
Extraction & Related Workers - Incl. Blasters	56	61	5	4	9
Tool & Die Makers	487	579	92	78	170
Machinists	2,293	2,672	379	243	622
Tool Grinders, Filers, Sharpeners (Precision)	129	156	27	15	42
Pattern & Model Makers, Metal	8	10	2	1	3
Precision Layout Workers, Metal	98	117	19	8	27
Jewelers & Silversmiths	29	40	11	6	17
Precision Hand Workers, Jewelry & Related	25	34	9	4	13
Precision Etchers & Engravers	9	12	3	1	4
Sheet Metal Workers	585	703	118	42	160
All Other Precision Metal Workers	210	255	45	32	77
Pattern & Model Makers, Wood (Exc. Carpenters)	5	5	0	1	1
Wood Machinists	185	198	13	21	34
Cabinetmakers & Bench Carpenters	584	686	102	51	153
All Other Precision Woodworkers	56	62	6	6	12
Fabric & Apparel Layout & Patternmakers	16	21	5	2	7
Upholsterers	78	107	29	13	42
Shoe & Leather Workers & Repairers - Precision	16	20	4	2	6
All Other Precision Textile & Apparel Workers	5	5	0	1	1
Precision Compositors/Typesetters/Arrangers	129	155	26	20	46
Job Printers	94	112	18	15	33
Precision Lithography & Photoengraving Workers	266	318	52	16	68
Bookbinders	33	39	6	7	13
All Other Precision Printing Workers	121	145	24	14	38
Slaughterers & Butchers	129	123	0	13	13

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Bakers, Manufacturing	86	82	0	14	14
Food Batchmakers	113	107	0	12	12
Precision Foundry Mold & Core Makers	115	123	8	9	17
Precision Detail Design Decorators & Painters	85	105	20	8	28
Precision Optical Goods Workers	555	761	206	100	306
All Other Precision Workers	203	242	39	19	58
Sawing Machine Tool Set-Up Operators - Metal & Plastic	74	86	12	9	21
Lathe/Turning Machine Set-Up Operators - Metal & Plastic	277	324	47	38	85
Drilling/Boring Machine Set-Up Operators - Metal & Plastic	152	183	31	18	49
Milling/Planing Machine Set-Up Operators - Metal & Plastic	127	153	26	17	43
Grinding & Buffing Machine Set-Up Operators - Metal & Plastic	316	369	53	26	79
Machine Tool Cutting Operators & Tenders - Metal & Plastic	1,007	1,227	220	57	277
Punching Machine Set-Up Operators - Metal & Plastic	95	114	19	13	32
Press/Press Brake Machine Set-Up Operators - Metal & Plastic	118	136	18	14	32
Shear/Slitter Machine Set-Up Operators - Metal & Plastic	85	99	14	8	22
Extruding/Drawing Machine Set-Up Operators - Metal & Plastic	407	435	28	46	74
Rolling Mach. Set-Up Opers. - Metal & Plastic	36	42	6	4	10
Forging Mach. Set-Up Opers. - Metal & Plastic	20	25	5	2	7
Machine Forming Operators & Tenders - Metal & Plastic	429	512	83	50	133
Numerical Control Machine Tool Operators - Metal & Plastic	367	427	60	50	110
Combination Machine Tool Set-Up Operators - Metal & Plastic	123	146	23	12	35
Combination Machine Tool Operators - Metal & Plastic	61	76	15	8	23
Welding Machine Setters & Set-Up Operators	158	184	26	15	41
Welding Machine Operators & Tenders	165	192	27	19	46
Soldering/Brazing Mach. Setters & Set-Up Opers.	6	7	1	1	2
Soldering & Brazing Machine Opers. & Tenders	27	31	4	3	7
Metal Fabricators, Structural Metal Products	154	183	29	12	41
Plastic Molding & Casting Machine Set-Up Opers.	136	169	33	14	47
Plastic Molding & Casting Mach. Opers. & Tenders	460	565	105	63	168
Metal Molding, Coremaking, & Casting Machine Set-Up	27	32	5	3	8
Metal Molding, Coremaking, & Casting Mach. Opers.	9	11	2	1	3
Electrolytic Coating Machine Set-Up Operators - Metal & Plastic	237	294	57	28	85
Electrolytic Coating Machine Operators - Metal & Plastic	176	211	35	21	56
Nonelectrolytic Coating Machine Set-Up - Metal & Plastic	16	19	3	1	4
Nonelectrolytic Coating Machine Operators - Metal & Plastic	46	55	9	5	14
Heat Treating/Tempering Machine Operators - Metal & Plastic	71	85	14	10	24
Furnace Operators & Tenders	35	39	4	4	8
Heaters, Metal & Plastic	8	9	1	1	2
All Other Metal & Plastic Mach. Set-Up Opers.	95	106	11	10	21
All Other Metal & Plastic Machine Operators	227	275	48	31	79
Sawing Machine Setters & Set-Up Operators	18	21	3	2	5
Sawing Machine Operators & Tenders	231	281	50	27	77
Woodworking Machine Set-Up Opers., Exc. Sawing	120	144	24	14	38
Woodworking Mach. Opers. & Tenders, Exc. Sawing	197	239	42	23	65
Offset Litho. Press Setters & Set-Up Opers.	305	364	59	50	109
Letter Press Setters & Set-Up Operators	322	385	63	27	90

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
All Other Printing Press Set-Up Operators	54	69	15	6	21
Photoengraving & Lithographing Photographers	113	135	22	6	28
Speciality Materials Printing Mach. Set-Up Opers.	28	36	8	4	12
Screen Printing Machine Setters & Set-Up Opers.	110	143	33	25	58
Bindery Machine Setters & Set-Up Operators	114	136	22	18	40
Typesetting & Composing Mach. Opers. & Tenders	199	238	39	53	92
Printing Press Machine Operators & Tenders	397	476	79	46	125
Photoengraving & Lithographing Machine Opers.	26	31	5	3	8
Bindery Machine Operators	267	320	53	31	84
All Other Printing & Related Machine Opers.	72	88	16	11	27
Textile Mach. Opers. - Winding/Weaving/Cutting	47	60	13	7	20
Sewing Machine Operators, Garment	1,310	1,639	329	181	510
Sewing Machine Operators, Non-Garment	268	345	77	37	114
Pressing Machine Opers. - Textile & Garments	11	14	3	2	5
Electronic Semiconductor Processors	2,357	3,061	704	282	986
Paper Goods Machine Setters & Set-Up Operators	43	53	10	5	15
Cooking Machine Operators & Tenders, Food	36	34	0	5	5
Roasting, Baking, & Drying Mach. Opers., Food	89	85	0	10	10
Furnace, Kiln, Oven, Drier, or Kettle Opers.	67	74	7	9	16
Cooling & Freezing Equip. Opers. & Tenders	21	20	0	2	2
Dairy Processing Equip. Opers., Incl. Setters	43	41	0	6	6
Chemical Equipment Controllers & Operators	42	46	4	5	9
Chemical Equipment Tenders	16	17	1	1	2
Cutting & Slicing Mach. Setters & Set-Up Opers.	13	16	3	2	5
Cutting & Slicing Machine Operators & Tenders	207	239	32	24	56
Coating & Painting Machine Set-Up Operators	180	226	46	21	67
Coating, Painting, & Spraying Machine Opers.	287	342	55	33	88
Cementing & Gluing Machine Operators & Tenders	93	119	26	11	37
Cleaning, Washing, & Pickling Equipment Opers.	63	67	4	7	11
Separating & Filtering Machine Operators	82	78	0	9	9
Crushing, Grinding, & Mixing Machine Operators	425	469	44	49	93
Extruding/Forming/Pressing Mach. Set-Up Opers.	64	75	11	7	18
Extruding, Forming, & Pressing Machine Opers.	357	430	73	42	115
Packaging & Filling Machine Opers. & Tenders	1,017	1,127	110	116	226
All Other Machine Setters & Set-Up Operators	224	248	24	26	50
All Other Machine Operators & Tenders	699	788	89	80	169
Machine Builders & Assemblers	500	618	118	48	166
Fitters, Structural Metal - Precision	119	141	22	14	36
Electromech. Equip. Assemblers - Precision	388	491	103	76	179
Electrical/Electronic Equipment Assemblers - Precision	7,352	9,435	2,083	1,447	3,530
All Other Precision Assemblers, Metal	156	188	32	16	48
Machine Assemblers	325	391	66	38	104
Electrical & Electronic Assemblers	1,179	1,439	260	138	398
Coil Winders, Tapers, & Finishers	95	115	20	11	31
Glaziers, Manufacturing	26	28	2	2	4
Welders & Cutters	633	733	100	59	159
Solderers & Brazers	23	27	4	3	7
Pressers, Hand	6	7	1	1	2
Sewers, Hand	7	9	2	1	3
Cutters & Trimmers, Hand	65	83	18	8	26
Portable Machine Cutters	17	21	4	2	6
Cannery Workers	68	65	0	7	7
Meat, Poultry, & Fish Cutters - Hand	59	56	0	6	6
Metal Pourers & Casters, Basic Shapes	20	21	1	2	3
Molders & Casters, Hand	139	151	12	13	25
Painting, Coating, & Decorating Workers, Hand	79	98	19	8	27
Grinding & Polishing Workers, Hand	214	268	54	25	79
Assemblers/Fabricators - Exc. Machine, Electrical & Precision	2,643	3,245	602	311	913
All Other Hand Workers	679	786	107	79	186
Stationary Engineers	32	39	7	4	11
All Other Plant & System Operators	54	60	6	6	12
Truck Drivers, Heavy or Tractor Trailer	1,301	1,421	120	96	216

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Truck Drivers, Light - Incl. Delivery & Route	630	704	74	47	121
Driving Sales Workers	767	805	38	53	91
All Other Motor Vehicle Operators	81	102	21	6	27
All Other Transportation & Related Workers	24	23	0	3	3
Crane & Tower Operators	103	118	15	8	23
Industrial Truck & Tractor Operators	756	840	84	56	140
Conveyor Operators & Tenders	212	235	23	24	47
Operating Engineers	44	48	4	4	8
All Other Material Moving Equipment Operators	40	41	1	3	4
Mechanic & Repairer Helpers	71	82	11	8	19
Construction & Extraction Worker Helpers	127	139	12	14	26
Machine Feeders & Offbearers	492	558	66	57	123
Freight, Stock, & Material Movers, Hand	878	1,001	123	101	224
Hand Packers & Packagers	550	624	74	63	137
Vehicle Washers & Equipment Cleaners	13	12	0	1	1
All Other Helpers & Laborers	1,730	1,939	209	197	406
TOTAL ALL OCCUPATIONS	107,581	129,373	22,187	13,298	35,485

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Professional, Paraprofessional, & Technical Workers
Teachers & Instructors, Voc. Ed. & Training

All Other Health Professionals, Paraprofessionals & Technicians
Opticians, Dispensing & Measuring

SALES & RELATED OCCUPATIONS

All Other Sales & Related Workers
Salespersons, Retail
News/Street Vendors, Phone Solicitors, Door-to-Door Sales Workers

AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS

All Timber Cutting & Related Workers
First Line Supervisors - Agri., Forestry, & Rel.
Fallers & Buckers
Logging Tractor Operators

All Other Agri., Forestry, Fishing, & Related
Log Graders & Scalers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Mechanics, Installers, & Repairers
Refractory Matls. Repairers, Exc. Brick Masons
Riggers
Menders - Garments, Linens, & Related

All Other Precision Metal Workers
Precision Instrument Makers
Boilermakers

All Other Precision Woodworkers
Pattern Markers, Wood
Furniture Finishers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Precision Workers
Precision Photographic Process Workers
Gem & Diamond Workers

All Other Metal & Plastic Mach. Set-Up Opers.
Foundry Mold Assembly & Shakeout Workers
Heating Equip. Set-Up Opers. - Metal & Plastic
Head Sawyers

All Other Printing Press Set-Up Operators
Printing Press Machine Setters & Set-Up Opers.

All Other Machine Setters & Set-Up Operators
Textile Machine Setters & Set-Up Operators

All Other Machine Operators & Tenders
Shoe Sewing Machine Operators & Tenders

All Other Precision Assemblers, Metal
Aircraft Assemblers - Precision

All Other Plant & System Operators
Chemical Plant & System Operators

All Other Material Moving Equipment Operators
Grader, Dozer, & Scraper Operators

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MOHAVE COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	103	123	20	13	33
Marketing, Advertising, & Public Rel. Mgrs.	5	6	1	1	2
Industrial Production Managers	15	17	2	2	4
General Managers & Top Executives	43	51	8	6	14
All Other Managers & Administrators	40	49	9	4	13
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	223	269	46	25	71
Accountants & Auditors	10	11	1	2	3
All Other Financial Specialists	1	1	0	0	0
All Other Management Support Workers	8	9	1	1	2
Mechanical Engineers	13	16	3	1	4
All Other Engineers	5	6	1	1	2
Electrical/Electronic Engineering Technicians	12	15	3	1	4
Mechanical Engineering Techs.	5	6	1	0	1
All Other Engineering & Related Technicians	134	162	28	15	43
All Physical & Life Science Techs.	2	3	1	0	1
All Health Diagnosing/Treating Practitioners	1	1	0	0	0
Writers & Editors	11	13	2	2	4
Artists & Related Workers	5	6	1	1	2
All Other Professional, Paraprofessional, & Technical Workers	16	20	4	1	5
SALES & RELATED OCCUPATIONS	30	35	5	4	9
All Sales Representatives & Salespersons, Service	2	2	0	0	0
Other Sales Representatives, Exc. Retail	17	20	3	3	6
All Other Sales & Related Workers	11	13	2	1	3
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	242	289	47	41	88
Secretaries	20	24	4	5	9
Stenographers	8	10	2	2	4
Bookkeeping, Accounting, & Auditing Clerks	32	37	5	6	11
General Office Clerks	29	35	6	6	12
Data Entry Keyers, Exc. Composing	12	15	3	1	4
Data Keyers, Composing	5	5	0	1	1
All Other Communication Equipment Operators	4	5	1	1	2
Production, Planning, & Expediting Clerks	18	22	4	4	8
Stock Clerks - Stockroom, Warehouse, or Yard	40	49	9	5	14
Traffic, Shipping, & Receiving Clerks	30	34	4	3	7
All Other Material Recording/Scheduling/Dist.	13	16	3	2	5
All Other Clerical & Administrative Support	31	37	6	5	11
SERVICE OCCUPATIONS	40	47	7	4	11
All Service Supervisors & Managers	3	4	1	1	2
Guards & Watch Guards	26	31	5	2	7
All Food Service Workers	2	2	0	0	0
Janitors & Cleaners, Exc. Maids & Housekeeping	9	10	1	1	2
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,419	1,672	256	166	422
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	8	9	1	1	2
First Line Mgrs./Supers. - Production & Opers.	56	67	11	4	15
First Line Mgrs./Supers. - Transport. Operatives	6	7	1	1	2
First Line Mgrs./Supers. - Laborers & Helpers	10	11	1	2	3
Precision Inspectors, Testers, & Graders	10	12	2	1	3
Production Inspectors, Testers, & Graders	48	56	8	6	14
Machinery Maintenance Mechanics	19	23	4	2	6
Machinery Maintenance Workers	14	13	0	2	2
Maintenance Repairers, General Utility	16	19	3	2	5
Automotive Mechanics	38	46	8	3	11
All Other Mechanics, Installers, & Repairers	19	23	4	1	5
All Construction Trades Workers	16	19	3	1	4

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MOHAVE COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Tool & Die Makers	15	19	4	2	6
All Other Precision Metal Workers	13	16	3	1	4
All Precision Woodworkers	14	16	2	2	4
All Precision Printing Workers	11	14	3	1	4
Precision Foundry Mold & Core Makers	8	10	2	1	3
All Other Precision Workers	12	15	3	0	3
Extruding/Drawing Machine Set-Up Operators - Metal & Plastic	34	33	0	4	4
Rolling Mach. Set-Up Opers. - Metal & Plastic	14	13	0	2	2
Combination Machine Tool Set-Up Operators - Metal & Plastic	28	35	7	3	10
Combination Machine Tool Operators - Metal & Plastic	87	110	23	12	35
Soldering & Brazing Machine Opers. & Tenders	6	8	2	1	3
Plastic Molding & Casting Machine Set-Up Opers.	50	57	7	5	12
Metal Molding, Coremaking, & Casting Mach. Opers.	20	25	5	3	8
Nonelectrolytic Coating Machine Set-Up - Metal & Plastic	7	9	2	0	2
Heat Treating/Tempering Machine Operators - Metal & Plastic	6	8	2	1	3
All Other Metal & Plastic Mach. Set-Up Opers.	29	36	7	3	10
All Other Metal & Plastic Machine Operators	4	5	1	0	1
Photoengraving & Lithographing Photographers	8	10	2	0	2
All Other Printing Setters & Set-Up Opers.	9	11	2	1	3
Typesetting & Composing Mach. Opers. & Tenders	7	9	2	2	4
Printing Press Machine Operators & Tenders	11	13	2	1	3
Textile Bleaching & Dyeing Machine Operators	7	8	1	1	2
Sewing Machine Operators, Non-Garment	140	154	14	19	33
Coating & Painting Machine Set-Up Operators	6	6	0	1	1
Coating, Painting, & Spraying Machine Opers.	8	10	2	1	3
Cleaning, Washing, & Pickling Equipment Opers.	5	6	1	1	2
Packaging & Filling Machine Opers. & Tenders	76	91	15	9	24
All Other Machine Setters & Set-Up Operators	2	2	0	0	0
All Other Machine Operators & Tenders	90	100	10	12	22
All Precision Assemblers, Metal	36	44	8	7	15
Electrical & Electronic Assemblers	7	9	2	1	3
Coil Winders, Tapers, & Finishers	7	9	2	1	3
Welders & Cutters	19	24	5	2	7
Portable Machine Cutters	13	14	1	2	3
Assemblers/Fabricators - Exc. Machine, Electrical & Precision	181	228	47	21	68
All Other Hand Workers	46	54	8	5	13
Truck Drivers, Heavy or Tractor Trailer	26	30	4	2	6
Truck Drivers, Light - Incl. Delivery & Route	16	19	3	1	4
Industrial Truck & Tractor Operators	11	11	0	1	1
All Other Material Moving Equipment Operators	2	2	0	0	0
Freight, Stock, & Material Movers, Hand	11	11	0	1	1
Hand Packers & Packagers	17	19	2	2	4
All Other Helpers & Laborers	40	44	4	5	9
TOTAL ALL OCCUPATIONS	2,057	2,435	381	253	634

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Professional, Paraprofessional, & Technical Workers
Reporters & Correspondents

SALES & RELATED OCCUPATIONS

All Other Sales & Related Workers
Sales Representatives, Scientific & Related Products & Services, Exc. Retail

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Other Clerical & Administrative Support
Order Clerks - Materials, Merch., & Service
Mail Clerks, Exc. Mail Machine Operators & Postal Service

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Construction Trades Workers
Concrete & Terrazzo Finishers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

MOHAVE COUNTY (CONTD.)

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Precision Metal Workers
 Sheet Metal Workers

All Precision Woodworkers
 Pattern & Model Makers, Wood (Exc. Carpenters)

All Other Metal & Plastic Mach. Set-Up Opers.
 Punching Machine Set-Up Operators - Metal & Plastic

All Other Printing Setters & Set-Up Opers.
 Offset Litho. Press Setters & Set-Up Opers.

All Other Machine Operators & Tenders
 Sewing Machine Operators, Garment
 Cutting & Slicing Machine Operators & Tenders
 Crushing, Grinding, & Mixing Machine Operators

All Precision Assemblers, Metal
 Electrical/Electronic Equipment Assemblers - Precision

All Other Hand Workers
 Pressers, Hand
 Molders & Casters, Hand
 Painting, Coating, & Decorating Workers, Hand

All Other Helpers & Laborers
 Machine Feeders & Offbearers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

NAVAJO COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	51	58	7	6	13
General Managers & Top Executives	29	34	5	4	9
All Other Managers & Administrators	22	24	2	2	4
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	40	45	5	1	6
Accountants & Auditors	7	8	1	1	2
All Engineers	13	15	2	0	2
All Engineering & Related Technicians	5	5	0	0	0
All Life Scientists	1	1	0	0	0
All Physical & Life Science Techs.	3	3	0	0	0
All Other Professional, Paraprofessional, & Technical Workers	11	13	2	0	2
SALES & RELATED OCCUPATIONS	36	44	8	5	13
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	98	112	14	18	32
Secretaries	17	20	3	4	7
Bookkeeping, Accounting, & Auditing Clerks	21	24	3	4	7
General Office Clerks	17	20	3	4	7
All Office Machine Operators	3	3	0	1	1
All Communication Equipment Operators	1	1	0	0	0
All Material Recording/Scheduling/Dist.	17	19	2	2	4
All Other Clerical & Administrative Support	22	25	3	3	6
SERVICE OCCUPATIONS	14	16	2	2	4
All Protective Service Workers	3	3	0	0	0
Janitors & Cleaners, Exc. Maids & Housekeeping	11	13	2	2	4
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	161	178	17	18	35
First Line Supervisors - Agri., Forestry, & Rel.	10	11	1	1	2
Fallers & Buckers	68	75	7	8	15
Log Handling Equipment Operators	25	28	3	3	6
Logging Tractor Operators	19	21	2	2	4
All Other Timber Cutting & Related Workers	38	42	4	4	8
All Other Agri., Forestry, Fishing, & Related	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	830	951	121	81	202
First Line Mgrs./Supers. - Production & Opers.	43	49	6	3	9
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	34	40	6	5	11
Production Inspectors, Testers, & Graders	25	29	4	3	7
All Machinery Maintenance Mechanics	17	20	3	1	4
Maintenance Repairers, General Utility	23	26	3	2	5
Automotive Mechanics	17	20	3	1	4
All Other Mechanics, Installers, & Repairers	108	124	16	10	26
Electricians	11	13	2	1	3
All Construction Trades Workers	9	10	1	1	2
All Precision Metal Workers	17	20	3	2	5
All Precision Printing Workers	4	5	1	0	1
All Precision Food & Tobacco Workers	5	6	1	0	1
All Other Precision Workers	29	32	3	3	6
Sawing Machine Operators & Tenders	45	50	5	5	10
All Printing & Related Machine Opers.	5	6	1	0	1
Crushing, Grinding, & Mixing Machine Operators	71	82	11	8	19
All Machine Setters & Set-Up Operators	63	72	9	7	16
All Other Machine Operators & Tenders	23	26	3	3	6
All Hand Workers	5	5	0	0	0
Truck Drivers, Heavy or Tractor Trailer	50	57	7	4	11
All Other Motor Vehicle Operators	24	30	6	1	7
Industrial Truck & Tractor Operators	31	36	5	2	7
All Other Material Moving Equipment Operators	7	8	1	0	1
Machine Feeders & Offbearers	48	53	5	5	10
Freight, Stock, & Material Movers, Hand	31	35	4	4	8
All Other Helpers & Laborers	85	97	12	10	22
TOTAL ALL OCCUPATIONS	1,230	1,404	174	131	305

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

NAVAJO COUNTY (CONTD.)

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Professional, Paraprofessional, & Technical Workers
- Reporters & Correspondents

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Material Recording/Scheduling/Dist.
- Stock Clerks - Stockroom, Warehouse, or Yard

All Other Clerical & Administrative Support
- Typists

AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS

All Other Timber Cutting & Related Workers
- Choke Setters

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other First Line Managers/Supervisors - Maintenance/Production/Construction
- First Line Managers/Supervisors - Mechanics/Installers/Repairers
- First Line Mgrs./Supers. - Laborers & Helpers

All Machinery Maintenance Mechanics
- Machinery Maintenance Mechanics, Water & Power Generation Plants

All Other Mechanics, Installers, & Repairers
- Machinery Maintenance Workers
- Precision Instrument Repairers
- Coin & Vending Machine Servicers & Repairers

All Construction Trades Workers
- Plumbers, Pipefitters, & Steamfitters

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Precision Metal Workers
- Precision Hand Workers, Jewelry & Related

All Machine Setters & Set-Up Operators
- Chemical Equipment Controllers & Operators
- Chemical Equipment Tenders
- Packaging & Filling Machine Opers. & Tenders

All Other Machine Operators & Tenders
- Woodworking Mach. Opers. & Tenders, Exc. Sawing

All Other Motor Vehicle Operators
- Driving Sales Workers

All Other Helpers & Laborers
- Mechanic & Repairer Helpers
- Hand Packers & Packagers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PIMA COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	2,314	2,853	539	319	858
Financial Managers	97	122	25	12	37
Personnel, Training, & Labor Relations Mgrs.	47	58	11	6	17
Purchasing Managers	86	109	23	9	32
Marketing, Advertising, & Public Rel. Mgrs.	53	69	16	8	24
Administrative Services Managers	102	133	31	13	44
Industrial Production Managers	187	242	55	24	79
General Managers & Top Executives	556	670	114	72	186
All Other Managers & Administrators	1,186	1,450	264	175	439
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	6,581	8,158	1,577	519	2,096
Accountants & Auditors	119	151	32	18	50
Budget Analysts	6	8	2	1	3
All Other Financial Specialists	18	24	6	2	8
Purchasing Agents, Exc. Wholesale, Retail, & Farm	161	203	42	22	64
Personnel, Training, & Labor Rel. Specialists	106	131	25	13	38
Cost Estimators	14	16	2	3	5
All Other Management Support Workers	255	315	60	37	97
Metallurgical & Materials Engineers	7	10	3	0	3
Chemical Engineers	26	34	8	2	10
Electrical & Electronic Engineers	1,605	2,008	403	99	502
Industrial Engineers, Exc. Safety	395	520	125	32	157
Safety Engineers, Exc. Mining	7	9	2	1	3
Mechanical Engineers	805	966	161	51	212
All Other Engineers	196	253	57	15	72
Electrical/Electronic Engineering Technicians	453	593	140	27	167
Industrial Engineering Techs.	89	117	28	10	38
Mechanical Engineering Techs.	62	81	19	2	21
Drafters	173	222	49	15	64
All Other Engineering & Related Technicians	183	228	45	20	65
Chemists, Exc. Biochemists	20	25	5	2	7
All Other Physical Scientists	7	9	2	1	3
Chemical Techs., Exc. Health	19	22	3	2	5
Systems Analysts, Electronic Data Processing	208	261	53	9	62
Computer Programmers	378	441	63	20	83
Computer Programmer Aides	22	28	6	2	8
Programmers - Numerical, Tool, & Process	157	178	21	10	31
Operations & Systems Analysts, Exc. Computer	311	371	60	9	69
Statisticians	23	26	3	3	6
Mathematical Technicians	40	53	13	1	14
Health Practitioners, Technicians, & Related	4	5	1	1	2
Writers & Editors	112	136	24	20	44
Technical Writers	20	27	7	1	8
Reporters & Correspondents	125	151	26	23	49
Artists & Related Workers	23	28	5	4	9
Designers, Exc. Interior Designers	78	95	17	7	24
All Other Professional, Paraprofessional, & Technical Workers	354	413	59	34	93
SALES & RELATED OCCUPATIONS	783	909	127	121	248
First Line Supervisors & Managers - Sales	59	72	13	9	22
All Sales Representatives & Salespersons, Service	34	41	7	5	12
Sales Engineers	41	53	12	2	14
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	71	90	19	10	29
All Other Sales Representatives, Exc. Retail	383	435	52	63	115
Cashiers	36	35	0	7	7
All Other Sales & Related Workers	159	183	24	25	49
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	4,310	5,212	902	848	1,750
First Line Supers.-Clerical & Admin. Support	81	96	15	11	26
Proofreaders & Copy Markers	12	14	2	1	3
Secretaries	546	670	124	130	254

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PIMA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Stenographers	13	19	6	3	9
Receptionists & Information Clerks	23	28	5	5	10
Typists	48	61	13	13	26
Typists, Word Processing Equipment	60	78	18	7	25
Personnel Clerks, Exc. Payroll & Timekeeping	22	29	7	6	13
File Clerks	17	21	4	5	9
Order Clerks - Materials, Merch., & Service	67	83	16	15	31
Procurement Clerks	53	70	17	6	23
Statistical Clerks	11	15	4	3	7
Bookkeeping, Accounting, & Auditing Clerks	251	305	54	51	105
Payroll & Timekeeping Clerks	31	36	5	6	11
Billing, Cost & Rate Clerks	43	57	14	10	24
General Office Clerks	811	964	153	179	332
Duplicating Machine Operators	12	14	2	2	4
Mail Machine Operators, Preparation & Handling	5	6	1	1	2
Computer Operators, Exc. Peripheral Equipment	191	233	42	21	63
Data Entry Keyers, Exc. Composing	88	115	27	7	34
Data Keyers, Composing	17	21	4	5	9
All Other Office Machine Operators	35	41	6	10	16
Switchboard Operators	20	25	5	6	11
Mail Clerks, Exc. Mail Machine Operators & Postal Service	11	13	2	2	4
Dispatchers - Exc. Police, Fire, & Ambulance	29	35	6	3	9
Production, Planning, & Expediting Clerks	380	474	94	85	179
Measurers & Samplers - Recordkeeping	15	16	1	2	3
Stock Clerks - Stockroom, Warehouse, or Yard	296	350	54	34	88
Traffic, Shipping, & Receiving Clerks	221	270	49	26	75
All Other Material Recording/Scheduling/Dist.	22	28	6	3	9
All Other Clerical & Administrative Support	879	1,025	146	190	336
SERVICE OCCUPATIONS	308	381	73	48	121
First Line Supers. & Mgrs./Supers. - Service	14	18	4	3	7
Guards & Watch Guards	84	108	24	5	29
Janitors & Cleaners, Exc. Maids & Housekeeping	177	216	39	33	72
All Other Service Workers	33	39	6	7	13
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	8	10	2	2	4
Gardeners & Groundskeepers, Exc. Farm	8	10	2	2	4
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	12,144	14,835	2,696	1,499	4,195
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	54	68	14	8	22
First Line Managers/Supervisors - Construction Trades & Extraction Workers	5	7	2	1	3
First Line Mgrs./Supers. - Production & Opers.	741	909	168	53	221
First Line Mgrs./Supers. - Transport. Operatives	86	97	11	17	28
First Line Mgrs./Supers. - Laborers & Helpers	65	76	11	13	24
Precision Inspectors, Testers, & Graders	560	716	156	68	224
Production Inspectors, Testers, & Graders	374	477	103	45	148
Machinery Maintenance Mechanics	102	122	20	10	30
All Other Machinery Maintenance Mechanics	3	3	0	0	0
Maintenance Repairers, General Utility	182	218	36	17	53
Automotive Mechanics	24	27	3	2	5
Mobile Heavy Equip. Mechanics, Exc. Engines	17	20	3	1	4
Data Processing Equipment Repairers	27	31	4	1	5
All Other Electrical Mechs./Installers/Repairers	117	154	37	7	44
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	20	26	6	2	8
Precision Instrument Repairers	106	143	37	10	47
Coin & Vending Machine Servicers & Repairers	27	26	0	2	2
All Other Mechanics, Installers, & Repairers	218	284	66	15	81
Carpenters	37	45	8	5	13
Electricians	64	80	16	6	22
Painters & Paperhangers - Construction & Maintenance	23	31	8	3	11

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PIMA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Plumbers, Pipefitters, & Steamfitters	19	25	6	2	8
All Other Construction Trades Workers	5	6	1	0	1
All Extraction Workers, Exc. Helpers	9	11	2	1	3
Tool & Die Makers	80	100	20	13	33
Machinists	271	323	52	29	81
Tool Grinders, Filers, Sharpeners (Precision)	28	33	5	3	8
Precision Layout Workers, Metal	15	19	4	1	5
Sheet Metal Workers	104	124	20	7	27
All Other Precision Metal Workers	20	28	8	3	11
Wood Machinists	83	109	26	10	36
Cabinetmakers & Bench Carpenters	97	109	12	8	20
All Other Precision Woodworkers	47	59	12	6	18
Shoe & Leather Workers & Repairers - Precision	12	13	1	2	3
All Other Precision Textile & Apparel Workers	9	10	1	2	3
Precision Compositors/Typesetters/Arrangers	34	41	7	5	12
Job Printers	52	63	11	8	19
Precision Lithography & Photoengraving Workers	50	60	10	3	13
All Other Precision Printing Workers	3	4	1	1	2
Slaughterers & Butchers	21	20	0	2	2
Food Batchmakers	36	35	0	4	4
All Other Precision Food & Tobacco Workers	14	14	0	2	2
Precision Molders/Casters, Exc. Jewely & Foundry	58	73	15	7	22
Precision Detail Design Decorators & Painters	40	56	16	4	20
All Other Precision Workers	103	132	29	11	40
Sawing Machine Tool Set-Up Operators - Metal & Plastic	34	43	9	4	13
Lathe/Turning Machine Set-Up Operators - Metal & Plastic	22	25	3	3	6
Drilling/Boring Machine Set-Up Operators - Metal & Plastic	9	10	1	1	2
Milling/Planing Machine Set-Up Operators - Metal & Plastic	19	22	3	3	6
Grinding & Buffing Machine Set-Up Operators - Metal & Plastic	58	67	9	5	14
Machine Tool Cutting Operators & Tenders - Metal & Plastic	26	34	8	2	10
Press/Press Brake Machine Set-Up Operators - Metal & Plastic	7	9	2	1	3
Machine Forming Operators & Tenders - Metal & Plastic	94	106	12	11	23
Numerical Control Machine Tool Operators - Metal & Plastic	53	61	8	7	15
Combination Machine Tool Set-Up Operators - Metal & Plastic	93	121	28	9	37
Combination Machine Tool Operators - Metal & Plastic	105	127	22	14	36
Welding Machine Setters & Set-Up Operators	36	41	5	3	8
Metal Fabricators, Structural Metal Products	25	28	3	2	5
Plastic Molding & Casting Machine Set-Up Opers.	11	15	4	1	5
Plastic Molding & Casting Mach. Opers. & Tenders	103	115	12	14	26
Electrolytic Coating Machine Set-Up Operators - Metal & Plastic	28	34	6	3	9
Electrolytic Coating Machine Operators - Metal & Plastic	19	21	2	2	4
All Other Metal & Plastic Mach. Set-Up Opers.	17	21	4	1	5
All Other Metal & Plastic Machine Operators	35	43	8	3	11
Sawing Machine Operators & Tenders	13	16	3	2	5
Offset Litho. Press Setters & Set-Up Opers.	64	77	13	10	23
Letter Press Setters & Set-Up Operators	20	24	4	2	6
Photoengraving & Lithographing Photographers	21	25	4	1	5
Bindery Machine Setters & Set-Up Operators	8	10	2	1	3
Typesetting & Composing Mach. Opers. & Tenders	55	66	11	15	26
Printing Press Machine Operators & Tenders	98	118	20	11	31
Bindery Machine Operators	41	50	9	5	14

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PIMA COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
All Other Printing & Related Machine Opers.	15	18	3	2	5
Sewing Machine Operators, Garment	168	187	19	23	42
Sewing Machine Operators, Non-Garment	35	41	6	5	11
Cooking Machine Operators & Tenders, Food	10	10	0	1	1
Roasting, Baking, & Drying Mach. Opers., Food	18	17	0	2	2
Furnace, Kiln, Oven, Drier, or Kettle Opers.	22	26	4	3	7
Cutting & Slicing Machine Operators & Tenders	38	42	4	4	8
Coating & Painting Machine Set-Up Operators	11	13	2	1	3
Coating, Painting, & Spraying Machine Opers.	23	26	3	3	6
Cementing & Gluing Machine Operators & Tenders	10	11	1	1	2
Crushing, Grinding, & Mixing Machine Operators	86	94	8	10	18
Extruding/Forming/Pressing Mach. Set-Up Opers.	59	68	9	7	16
Extruding, Forming, & Pressing Machine Opers.	77	86	9	9	18
Packaging & Filling Machine Opers. & Tenders	185	192	7	21	28
All Other Machine Setters & Set-Up Operators	34	42	8	5	13
All Other Machine Operators & Tenders	181	212	31	22	53
Machine Builders & Assemblers	30	37	7	3	10
Electromech. Equip. Assemblers - Precision	1,128	1,381	253	219	472
Electrical/Electronic Equipment Assemblers - Precision	613	830	217	123	340
All Other Precision Assemblers, Metal	280	368	88	55	143
Machine Assemblers	73	99	26	9	35
Electrical & Electronic Assemblers	990	1,259	269	118	387
Welders & Cutters	130	152	22	12	34
Cutters & Trimmers, Hand	16	18	2	2	4
Meat, Poultry, & Fish Cutters - Hand	18	17	0	2	2
Molders & Casters, Hand	19	22	3	2	5
Grinding & Polishing Workers, Hand	16	18	2	2	4
Assemblers/Fabricators - Exc. Machine, Electrical & Precision	720	926	206	86	292
All Other Hand Workers	258	312	54	28	82
All Plant & System Operators	13	15	2	1	3
Truck Drivers, Heavy or Tractor Trailer	197	229	32	15	47
Truck Drivers, Light - Incl. Delivery & Route	349	391	42	26	68
Driving Sales Workers	61	62	1	4	5
All Other Motor Vehicle Operators	6	7	1	0	1
Crane & Tower Operators	10	12	2	1	3
Industrial Truck & Tractor Operators	122	135	13	9	22
Operating Engineers	50	59	9	5	14
All Other Material Moving Equipment Operators	6	7	1	0	1
Mechanic & Repairer Helpers	53	68	15	6	21
Construction & Extraction Worker Helpers	11	13	2	1	3
Machine Feeders & Offbearers	142	176	34	17	51
Freight, Stock, & Material Movers, Hand	105	127	22	12	34
Hand Packers & Packagers	319	363	44	36	80
All Other Helpers & Laborers	261	291	30	30	60
TOTAL ALL OCCUPATIONS	26,448	32,358	5,916	3,356	9,272

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Professional, Paraprofessional, & Technical Workers
Librarians, Professional
Photographers

All Other Engineers
Aeronautical and Astronautical Engineers

SALES & RELATED OCCUPATIONS

All Sales Representatives & Salespersons, Service
Sales Agents, Advertising

All Other Sales & Related Workers
Salespersons, Retail
News/Street Vendors, Phone Solicitors, Door-to-Door Sales Workers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PIMA COUNTY (CONTD.)

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

- All Other Office Machine Operators
  - Peripheral EDP Equipment Operators

- All Other Clerical & Administrative Support
  - Advertising Clerks

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

- All Other Electrical Mechs./Installers/Repairers
  - Electronics Repairers, Commercial & Ind. Equip.
  - Electrical Installers & Repairers, Transportation Equipment

- All Other Mechanics, Installers, & Repairers
  - Bus & Truck Mechs., & Diesel Eng. Specialists
  - Aircraft Mechanics
  - Aircraft Engine Specialists
  - Mechanical Control & Valve Installers & Repairers

- All Other Extraction Workers, Exc. Helpers
  - Extraction & Related Workers - Incl. Blasters

- All Other Precision Metal Workers
  - Jewelers & Silversmiths
  - Precision Hand Workers, Jewelry & Related

- All Other Precision Woodworkers
  - Precision Woodworkers
  - Pattern & Model Makers, Wood (Exc. Carpenters)

- All Other Precision Textile & Apparel Workers
  - Fabric & Apparel Layout & Patternmakers

- All Other Precision Food & Tobacco Workers
  - Bakers, Manufacturing

- All Other Precision Workers
  - Precision Foundry Mold & Core Makers
  - Precision Optical Goods Workers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

- All Other Metal & Plastic Mach. Set-Up Opers.
  - Punching Machine Set-Up Operators - Metal & Plastic

- All Other Metal & Plastic Machine Operators
  - Soldering & Brazing Machine Opers. & Tenders
  - Nonelectrolytic Coating Machine Operators - Metal & Plastic
  - Furnace Operators & Tenders

- All Other Machine Setters & Set-Up Operators
  - Woodworking Machine Set-Up Opers., Exc. Sawing
  - Cutting & Slicing Mach. Setters & Set-Up Opers.

- All Other Machine Operators & Tenders
  - Woodworking Mach. Opers. & Tenders, Exc. Sawing
  - Shoe Sewing Machine Operators & Tenders
  - Pressing Machine Opers. - Textile & Garments
  - Paper Goods Machine Setters & Set-Up Operators
  - Dairy Processing Equip. Opers., Incl. Setters
  - Chemical Equipment Controllers & Operators
  - Painters, Transportation Equipment
  - Cleaning, Washing, & Pickling Equipment Opers.

- All Other Precision Assemblers, Metal
  - Aircraft Assemblers - Precision

- All Other Hand Workers
  - Coil Winders, Tapers, & Finishers
  - Glaziers, Manufacturing
  - Solderers & Brazers
  - Cannery Workers
  - Painting, Coating, & Decorating, Hand

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PINAL COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	85	99	14	8	22
Industrial Production Managers	12	14	2	1	3
General Managers & Top Executives	57	68	11	7	18
All Other Managers & Administrators	16	17	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	74	79	5	4	9
All Financial Specialists	3	3	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	5	5	0	1	1
All Other Management Support Workers	6	6	0	0	0
All Engineers	19	21	2	0	2
All Engineering & Related Technicians	10	10	0	0	0
All Physical Scientists	7	7	0	0	0
All Physical & Life Science Techs.	5	5	0	0	0
Writers & Editors	6	7	1	1	2
All Other Professional, Paraprofessional, & Technical Workers	13	15	2	2	4
SALES & RELATED OCCUPATIONS	39	46	7	6	13
First Line Supervisors & Managers - Sales	10	11	1	1	2
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	5	6	1	1	2
Other Sales Representatives, Exc. Retail	23	28	5	4	9
All Other Sales & Related Workers	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	191	219	28	32	60
First Line Supers.-Clerical & Admin. Support	5	5	0	1	1
Secretaries	23	27	4	5	9
Bookkeeping, Accounting, & Auditing Clerks	24	28	4	5	9
Payroll & Timekeeping Clerks	5	5	0	1	1
General Office Clerks	33	39	6	7	13
All Office Machine Operators	6	7	1	1	2
Production, Planning, & Expediting Clerks	6	6	0	1	1
Measurers & Samplers - Recordkeeping	20	24	4	2	6
Stock Clerks - Stockroom, Warehouse, or Yard	17	19	2	2	4
Traffic, Shipping, & Receiving Clerks	29	34	5	3	8
All Other Material Recording/Scheduling/Dist.	4	4	0	0	0
All Other Clerical & Administrative Support	19	21	2	4	6
SERVICE OCCUPATIONS	24	28	4	4	8
All Protective Service Workers	4	5	1	0	1
All Food Service Workers	3	3	0	1	1
Janitors & Cleaners, Exc. Maids & Housekeeping	17	20	3	3	6
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,849	2,054	210	200	410
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	8	9	1	1	2
First Line Mgrs./Supers. - Production & Opers.	113	126	13	8	21
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	11	11	0	2	2
Precision Inspectors, Testers, & Graders	9	10	1	1	2
Production Inspectors, Testers, & Graders	35	41	6	4	10
Machinery Maintenance Mechanics	15	16	1	1	2
Machinery Maintenance Mechanics, Water & Power Generation Plants	4	4	0	0	0
Maintenance Repairers, General Utility	43	52	9	4	13
All Other Mechanics, Installers, & Repairers	30	32	2	2	4
Carpenters	15	16	1	2	3
Electricians	33	33	0	3	3
All Other Construction Trades Workers	41	43	2	3	5
All Extraction Workers, Exc. Helpers	52	50	0	4	4
Machinists	26	28	2	3	5
Tool Grinders, Filers, Sharpeners (Precision)	6	7	1	1	2

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PINAL COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
All Other Precision Metal Workers	12	15	3	2	5
Cabinetmakers & Bench Carpenters	7	8	1	1	2
All Other Precision Woodworkers	14	16	2	1	3
All Precision Textile & Apparel Workers	4	5	1	0	1
All Precision Printing Workers	5	6	1	0	1
All Precision Food & Tobacco Workers	8	9	1	1	2
Grinding & Buffing Machine Set-Up Operators - Metal & Plastic	8	11	3	1	4
Punching Machine Set-Up Operators - Metal & Plastic	27	32	5	4	9
Press/Press Brake Machine Set-Up Operators - Metal & Plastic	27	32	5	3	8
Welding Machine Operators & Tenders	25	34	9	3	12
All Other Metal & Plastic Mach. Set-Up Opers.	9	12	3	0	3
All Other Metal & Plastic Machine Operators	144	167	23	19	42
All Other Printing Setters & Set-Up Opers.	6	7	1	0	1
Printing Press Machine Operators & Tenders	6	7	1	1	2
All Other Printing & Related Machine Opers.	5	6	1	1	2
Sewing Machine Operators, Garment	284	313	29	38	67
Coating, Painting, & Spraying Machine Opers.	12	16	4	1	5
Crushing, Grinding, & Mixing Machine Operators	30	36	6	4	10
Extruding, Forming, & Pressing Machine Opers.	20	24	4	2	6
Packaging & Filling Machine Opers. & Tenders	39	48	9	5	14
All Other Machine Operators & Tenders	107	112	5	13	18
All Precision Assemblers, Metal	11	13	2	2	4
Welders & Cutters	18	21	3	2	5
Cutters & Trimmers, Hand	6	7	1	1	2
Assemblers/Fabricators - Exc. Machine, Electrical & Precision	17	21	4	2	6
All Other Hand Workers	55	63	8	5	13
All Plant & System Operators	20	22	2	3	5
Truck Drivers, Heavy or Tractor Trailer	71	83	12	5	17
Truck Drivers, Light - Incl. Delivery & Route	6	7	1	0	1
All Other Motor Vehicle Operators	3	4	1	0	1
Crane & Tower Operators	25	24	0	2	2
Industrial Truck & Tractor Operators	18	21	3	1	4
All Other Material Moving Equipment Operators	80	79	0	6	6
Construction & Extraction Worker Helpers	14	16	2	2	4
Freight, Stock, & Material Movers, Hand	63	71	8	7	15
All Other Freight & Material Movers, Hand	62	61	0	7	7
Hand Packers & Packagers	15	19	4	2	6
All Other Helpers & Laborers	125	128	3	14	17
TOTAL ALL OCCUPATIONS	2,262	2,525	268	254	522

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Engineers
  Metallurgical & Materials Engineers
  Mechanical Engineers

All Other Professional, Paraprofessional, & Technical Workers
  Reporters & Correspondents

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other First Line Managers/Supervisors - Maintenance/Production/Construction
  First Line Mgrs./Supers. - Laborers & Helpers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Mechanics, Installers, & Repairers
  Refractory Matls. Repairers, Exc. Brick Masons
  Bus & Truck Mechs., & Diesel Eng. Specialists

All Other Construction Trades Workers
  Plumbers, Pipefitters, & Steamfitters

All Extraction Workers, Exc. Helpers
  Extraction & Related Workers - Incl. Blasters

All Other Precision Metal Workers
  Sheet Metal Workers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

PINAL COUNTY (CONTD.)

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Precision Woodworkers
 Furniture Finishers

All Precision Food & Tobacco Workers
 Slaughterers & Butchers

All Other Metal & Plastic Machine Operators
 Machine Tool Cutting Operators & Tenders - Metal & Plastic
 Plastic Molding & Casting Mach. Opers. & Tenders

All Other Machine Operators & Tenders
 Sewing Machine Operators, Non-Garment
 Pressing Machine Opers. - Textile & Garments
 Boiler Operators & Tenders, Low Pressure
 Cutting & Slicing Machine Operators & Tenders
 Separating & Filtering Machine Operators

All Precision Assemblers, Metal
 Electrical/Electronic Equipment Assemblers - Precision

All Other Hand Workers
 Coil Winders, Tapers, & Finishers

All Plant & System Operators
 Stationary Engineers

All Other Material Moving Equipment Operators
 Grader, Dozer, & Scraper Operators
 Conveyor Operators & Tenders

All Other Freight & Material Movers, Hand
 Machine Feeders & Offbearers

All Other Helpers & Laborers
 Mechanic & Repairer Helpers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

SANTA CRUZ COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	62	75	13	9	22
Industrial Production Managers	6	7	1	1	2
General Managers & Top Executives	28	34	6	4	10
All Other Managers & Administrators	28	34	6	4	10
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	63	73	10	3	13
Accountants & Auditors	9	11	2	1	3
Purchasing Agents, Exc. Wholesale, Retail, & Farm	9	11	2	1	3
All Other Management Support Workers	3	3	0	0	0
All Engineers	19	23	4	0	4
Electrical/Electronic Engineering Technicians	11	13	2	1	3
All Other Engineering & Related Technicians	3	3	0	0	0
All Other Professional, Paraprofessional, & Technical Workers	9	9	0	0	0
SALES & RELATED OCCUPATIONS	5	5	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	117	140	23	20	43
Secretaries	17	21	4	4	8
Order Clerks - Materials, Merch., & Service	9	11	2	2	4
Bookkeeping, Accounting, & Auditing Clerks	14	17	3	3	6
General Office Clerks	7	8	1	2	3
All Office Machine Operators	5	6	1	0	1
All Communication Equipment Operators	1	1	0	0	0
Stock Clerks - Stockroom, Warehouse, or Yard	15	18	3	2	5
Traffic, Shipping, & Receiving Clerks	25	30	5	3	8
All Other Material Recording/Scheduling/Dist.	6	7	1	1	2
All Other Clerical & Administrative Support	18	21	3	3	6
SERVICE OCCUPATIONS	9	11	2	2	4
Janitors & Cleaners, Exc. Maids & Housekeeping	9	11	2	2	4
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	445	519	74	49	123
First Line Mgrs./Supers. - Production & Opers.	44	51	7	3	10
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	3	4	1	0	1
Precision Inspectors, Testers, & Graders	9	11	2	1	3
Production Inspectors, Testers, & Graders	15	17	2	2	4
All Machinery Maintenance Mechanics	2	2	0	0	0
All Other Mechanics, Installers, & Repairers	4	5	1	0	1
Tool & Die Makers	12	15	3	2	5
All Other Precision Metal Workers	4	4	0	0	0
All Precision Printing Workers	2	2	0	0	0
All Metal & Plastic Mach. Set-Up Opers.	5	6	1	0	1
All Metal & Plastic Machine Operators	17	20	3	2	5
All Printing & Related Machine Opers.	6	7	1	1	2
Sewing Machine Operators, Garment	90	99	9	12	21
Pressing Machine Opers. - Textile & Garments	12	13	1	2	3
All Other Machine Operators & Tenders	32	38	6	4	10
All Precision Assemblers, Metal	6	7	1	1	2
Grinding & Polishing Workers, Hand	13	16	3	2	5
Assemblers/Fabricators - Exc. Machine, Electrical & Precision	105	127	22	12	34
All Other Hand Workers	19	22	3	1	4
All Motor Vehicle Operators	12	14	2	0	2
Industrial Truck & Tractor Operators	8	10	2	1	3
All Other Freight & Material Movers, Hand	7	8	1	1	2
All Helpers & Laborers	18	21	3	2	5
TOTAL ALL OCCUPATIONS	701	823	122	83	205

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

SANTA CRUZ COUNTY

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MANAGERIAL & ADMINISTRATIVE OCCUPATIONS

- All Other Managers & Administrators
  - Financial Managers

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

- All Engineers
  - Electrical & Electronic Engineers
  - Mechanical Engineers

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

- All Other Material Recording/Scheduling/Dist.
  - Production, Planning, & Expediting Clerks

- All Other Clerical & Administrative Support
  - Typists

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

- All Metal & Plastic Machine Operators
  - Machine Forming Operators & Tenders - Metal & Plastic
  - Electrolytic Coating Mach. Opers. - Metal & Plastic

- All Precision Assemblers, Metal
  - Electrical/Electronic Equipment Assemblers - Precision

- All Other Hand Workers
  - Cannery Workers

- All Motor Vehicle Operators
  - Truck Drivers, Heavy or Tractor Trailer

- All Other Freight & Material Movers, Hand
  - Freight, Stock, & Material Movers, Hand

- All Helpers & Laborers
  - Hand Packers & Packagers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

YAVAPAI COUNTY

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	93	113	20	11	31
Marketing, Advertising, & Public Rel. Mgrs.	7	9	2	1	3
Industrial Production Managers	11	14	3	1	4
General Managers & Top Executives	49	58	9	6	15
All Other Managers & Administrators	26	32	6	3	9
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	134	160	26	10	36
All Management Support Workers	3	4	1	0	1
Purchasing Agents, Exc. Wholesale, Retail, & Farm	6	7	1	1	2
All Other Management Support Workers	3	3	0	0	0
Electrical & Electronic Engineers	23	28	5	1	6
Industrial Engineers, Exc. Safety	5	6	1	0	1
Mechanical Engineers	17	21	4	1	5
All Other Engineers	1	1	0	0	0
Electrical/Electronic Engineering Technicians	22	27	5	1	6
Drafters	13	16	3	1	4
All Other Engineering & Related Technicians	5	5	0	0	0
All Physical Scientists	2	2	0	0	0
All Physical & Life Science Techs.	7	8	1	1	2
All Mathematical Scientists	2	3	1	0	1
All Teachers & Instructors	1	1	0	0	0
All Other Professional, Paraprofessional, & Technical Workers	24	28	4	4	8
SALES & RELATED OCCUPATIONS	39	48	9	5	14
All Sales Representatives & Salespersons, Service	2	2	0	0	0
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	8	10	2	1	3
All Other Sales Representatives, Exc. Retail	12	15	3	2	5
All Other Sales & Related Workers	17	21	4	2	6
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	187	227	40	36	76
First Line Supers.-Clerical & Admin. Support	7	9	2	1	3
Secretaries	26	32	6	6	12
Bookkeeping, Accounting, & Auditing Clerks	16	19	3	3	6
Billing, Cost & Rate Clerks	6	7	1	1	2
General Office Clerks	40	48	8	9	17
Computer Operators, Exc. Peripheral Equipment	6	8	2	1	3
All Other Office Machine Operators	15	18	3	3	6
All Communication Equipment Operators	2	2	0	1	1
Production, Planning, & Expediting Clerks	26	32	6	6	12
Stock Clerks - Stockroom, Warehouse, or Yard	14	17	3	2	5
Traffic, Shipping, & Receiving Clerks	10	12	2	1	3
All Other Material Recording/Scheduling/Dist.	5	6	1	0	1
All Other Clerical & Administrative Support	14	17	3	2	5
SERVICE OCCUPATIONS	42	55	13	8	21
First Line Supers. & Mgrs./Supers. - Service	32	44	12	7	19
Janitors & Cleaners, Exc. Maids & Housekeeping	10	11	1	1	2
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	9	9	0	0	0
All Timber Cutting & Related Workers	8	8	0	0	0
All Other Agri., Forestry, Fishing, & Related	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,689	2,068	379	194	573
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	13	16	3	2	5
First Line Mgrs./Supers. - Production & Opers.	59	70	11	4	15
First Line Mgrs./Supers. - Laborers & Helpers	11	12	1	2	3
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	1	1	0	0	0
Production Inspectors, Testers, & Graders	35	41	6	4	10
All Other Inspectors, Testers, & Related	11	13	2	1	3

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

YAVAPAI COUNTY (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Machinery Maintenance Mechanics	16	21	5	2	7
All Other Machinery Maintenance Mechanics	4	4	0	0	0
Maintenance Repairers, General Utility	62	73	11	6	17
Precision Instrument Repairers	18	22	4	2	6
All Other Mechanics, Installers, & Repairers	19	22	3	1	4
All Construction Trades Workers	11	13	2	1	3
All Extraction Workers, Exc. Helpers	7	8	1	1	2
Tool & Die Makers	13	17	4	2	6
Machinists	42	52	10	5	15
All Other Precision Metal Workers	9	11	2	0	2
All Precision Woodworkers	5	6	1	0	1
All Precision Printing Workers	8	10	2	0	2
All Other Precision Workers	13	15	2	1	3
Lathe/Turning Machine Set-Up Operators - Metal & Plastic	23	28	5	3	8
Extruding/Drawing Machine Set-Up Operators - Metal & Plastic	26	35	9	3	12
Machine Forming Operators & Tenders - Metal & Plastic	155	210	55	19	74
Numerical Control Machine Tool Operators - Metal & Plastic	8	10	2	1	3
Plastic Molding & Casting Mach. Opers. & Tenders	63	72	9	9	18
All Other Metal & Plastic Mach. Set-Up Opers.	22	26	4	1	5
All Other Metal & Plastic Machine Operators	6	7	1	1	2
All Printing Press Set-Up Operators	5	6	1	1	2
All Printing Setters & Set-Up Opers.	1	1	0	0	0
Printing Press Machine Operators & Tenders	13	16	3	2	5
All Other Printing & Related Machine Opers.	1	1	0	0	0
Furnace, Kiln, Oven, Drier, or Kettle Opers.	23	27	4	3	7
Crushing, Grinding, & Mixing Machine Operators	17	20	3	2	5
All Other Machine Operators & Tenders	328	374	46	42	88
All Precision Assemblers, Metal	89	109	20	17	37
Electrical & Electronic Assemblers	20	24	4	2	6
Coil Winders, Tapers, & Finishers	7	9	2	1	3
Glaziers, Manufacturing	25	34	9	2	11
Welders & Cutters	8	10	2	1	3
Pressers, Hand	15	17	2	2	4
Assemblers/Fabricators - Exc. Machine, Electrical, & Precision	242	328	86	29	115
All Other Hand Workers	22	25	3	1	4
Truck Drivers, Heavy or Tractor Trailer	72	89	17	5	22
All Other Motor Vehicle Operators	14	17	3	1	4
Industrial Truck & Tractor Operators	23	27	4	2	6
All Other Material Moving Equipment Operators	8	9	1	0	1
Machine Feeders & Offbearers	12	14	2	1	3
Freight, Stock, & Material Movers, Hand	7	8	1	1	2
All Other Helpers & Laborers	77	88	11	8	19
TOTAL ALL OCCUPATIONS	2,193	2,680	487	264	751

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS
All Physical & Life Science Techs. Chemical Techs., Exc. Health	All Other Office Machine Operators Data Keyers, Composing
All Other Professional, Paraprofessional, & Technical Workers Reporters & Correspondents	

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

YAVAPAI COUNTY (CONTD.)

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

- All Other Inspectors, Testers, & Related
  - Precision Inspectors, Testers, & Graders

- All Other Mechanics, Installers, & Repairers
  - Mobile Heavy Equip. Mechanics, Exc. Engines

- All Construction Trades Workers
  - Electricians

- All Extraction Workers, Exc. Helpers
  - Extraction & Related Workers - Incl. Blasters

- All Precision Woodworkers
  - Cabinetmakers & Bench Carpenters

- All Other Precision Workers
  - Precision Molders/Casters, Exc. Jewelry & Foundry

- All Other Metal & Plastic Mach. Set-Up Opers.
  - Plastic Molding & Casting Machine Set-Up Opers.

- All Printing Press Set-Up Operators
  - Offset Litho. Press Setters & Set-Up Opers.

- All Other Machine Operators & Tenders
  - Sawing Machine Opertors & Tenders
  - Sewing Machine Operators, Garment
  - Cutting & Slicing Machine Operators & Tenders
  - Separating & Filtering Machine Operators
  - Packaging & Filling Machine Opers. & Tenders

- All Precision Assemblers, Metal
  - Electrical/Electronic Equipment Assemblers - Precision

- All Other Hand Workers
  - Machine Assemblers

- All Other Motor Vehicle Operators
  - Truck Drivers, Light - Incl. Delivery & Route

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

YUMA/LA PAZ COUNTIES

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	71	84	13	8	21
General Managers & Top Executives	60	72	12	8	20
All Other Managers & Administrators	11	12	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	75	89	14	9	23
All Financial Specialists	2	2	0	0	0
Purchasing Agents, Exc. Wholesale, Retail, & Farm	5	6	1	1	2
All Other Management Support Workers	2	2	0	0	0
All Engineers	32	38	6	2	8
All Teachers & Instructors	1	1	0	0	0
Reporters & Correspondents	5	6	1	1	2
All Other Professional, Paraprofessional, & Technical Workers	28	34	6	5	11
SALES & RELATED OCCUPATIONS	38	46	8	5	13
All Sales Representatives, Exc. Retail	32	39	7	5	12
All Other Sales & Related Workers	6	7	1	0	1
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	162	192	30	33	63
Secretaries	15	18	3	4	7
Interviewing Clerks, Exc. Personnel & Welfare	15	18	3	2	5
Bookkeeping, Accounting, & Auditing Clerks	11	13	2	2	4
Payroll & Timekeeping Clerks	5	6	1	1	2
General Office Clerks	16	19	3	4	7
Mail Machine Operators, Preparation & Handling	19	23	4	6	10
All Other Office Machine Operators	18	23	5	3	8
All Communication Equipment Operators	3	4	1	1	2
Traffic, Shipping, & Receiving Clerks	24	27	3	3	6
All Other Material Recording/Scheduling/Dist.	17	19	2	3	5
All Other Clerical & Administrative Support	19	22	3	4	7
SERVICE OCCUPATIONS	10	12	2	2	4
Janitors & Cleaners, Exc. Maids & Housekeeping	9	11	2	2	4
All Food Service Workers	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,274	1,461	187	145	332
First Line Managers/Supervisors - Mechanics/Installers/Repairers	8	9	1	1	2
First Line Mgrs./Supers. - Production & Opers.	29	34	5	2	7
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	2	2	0	0	0
Production Inspectors, Testers, & Graders	19	21	2	2	4
All Other Inspectors, Testers, & Related	3	4	1	0	1
Machinery Maintenance Mechanics	9	11	2	1	3
Machinery Maintenance Mechanics, Textiles	33	38	5	3	8
Machinery Maintenance Mechs., Sewing Machines	12	13	1	1	2
Maintenance Repairers, General Utility	8	9	1	1	2
Bus & Truck Mechs., & Diesel Eng. Specialists	6	7	1	1	2
All Other Mechanics, Installers, & Repairers	24	28	4	1	5
All Construction Trades Workers	5	6	1	0	1
All Precision Metal Workers	12	15	3	1	4
All Precision Woodworkers	5	6	1	0	1
All Precision Textile & Apparel Workers	4	4	0	0	0
Precision Compositors/Typesetters/Arrangers	6	7	1	1	2
All Other Precision Printing Workers	3	3	0	0	0
Food Batchmakers	8	10	2	1	3
All Other Precision Food & Tobacco Workers	8	10	2	1	3
All Other Precision Workers	1	1	0	0	0
Punching Machine Set-Up Operators - Metal & Plastic	9	11	2	1	3
All Other Metal & Plastic Mach. Set-Up Opers.	37	49	12	4	16
All Other Metal & Plastic Machine Operators	18	21	3	2	5

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

YUMA/LA PAZ COUNTIES (CONTD.)

	ESTIMATED MAY 1983 EMPLOYMENT	PROJECTED MAY 1987 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1983-1987	JOB OPENINGS DUE TO SEPARATIONS 1983-1987	TOTAL JOB OPENINGS 1983-1987
Letter Press Setters & Set-Up Operators	6	7	1	1	2
All Other Printing Press Set-Up Operators	1	1	0	0	0
All Other Printing Setters & Set-Up Opers.	7	8	1	0	1
All Other Printing & Related Machine Opers.	7	8	1	0	1
Textile Mach. Opers. - Winding/Weaving/Cutting	213	245	32	29	61
Sewing Machine Operators, Garment	380	419	39	51	90
Crushing, Grinding, & Mixing Machine Operators	5	6	1	1	2
Extruding, Forming, & Pressing Machine Opers.	29	33	4	3	7
All Other Machine Operators & Tenders	62	71	9	7	16
Electrical/Electronic Equipment Assemblers - Precision	20	24	4	4	8
Cutters & Trimmers, Hand	7	8	1	1	2
All Other Hand Workers	38	44	6	3	9
Truck Drivers, Heavy or Tractor Trailer	49	57	8	4	12
Truck Drivers, Light - Incl. Delivery & Route	19	23	4	1	5
Driving Sales Workers	14	17	3	1	4
Industrial Truck & Tractor Operators	6	7	1	0	1
Operating Engineers	20	23	3	2	5
All Other Material Moving Equipment Operators	1	1	0	0	0
Machine Feeders & Offbearers	17	20	3	2	5
Freight, Stock, & Material Movers, Hand	21	25	4	2	6
Hand Packers & Packagers	29	33	4	3	7
All Other Helpers & Laborers	54	62	8	6	14
TOTAL ALL OCCUPATIONS	1,630	1,884	254	202	456

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Engineers
Aeronautical and Astronautical Engineers

All Other Professional, Paraprofessional, & Technical Workers
Writers & Editors

SALES & RELATED OCCUPATIONS

All Other Sales & Related Workers
Salespersons, Retail

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Other Office Machine Operators
Data Entry Keyers, Exc. Composing

All Other Clerical & Administrative Support
Typists, Word Processing Equipment

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Mechanics, Installers, & Repairers
Aircraft Mechanics
Aircraft Engine Specialists

All Construction Trades Workers
Concrete & Terrazzo Finishers

All Precision Metal Workers
Tool & Die Makers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Precision Woodworkers
Cabinetmakers & Bench Carpenters

All Other Precision Food & Tobacco Workers
Slaughterers & Butchers

All Other Metal & Plastic Mach. Set-Up Opers.
Press/Press Brake Machine Set-Up Operators - Metal & Plastic
Welding Machine Setters & Set-Up Operators

All Other Metal & Plastic Machine Operators
Machine Forming Operators & Tenders - Metal & Plastic

All Other Printing Setters & Set-Up Opers.
Photoengraving & Lithographing Photographers

All Other Machine Operators & Tenders
Sewing Machine Operators, Non-Garment
Cutting & Slicing Machine Operators & Tenders
Separating & Filtering Machine Operators
Packaging & Filling Machine Opers. & Tenders

All Other Hand Workers
Assemblers/Fabricators - Exc. Machine, Electrical & Precision

METHODOLOGY

Sample Selection and Response Rate

Occupational estimates for the manufacturing industry were developed from a survey of employers in the state. Employers asked to participate in the survey were selected, using standardized sampling techniques, from a master employer file of firms doing business in Arizona. A sample of establishments employing 4-99 employees and all establishments having 100 or more employees were surveyed. The entire sample was composed of 1,860 units with a usable response rate of 93 percent. Firms responding represented 96 percent of the industry's employment.

Employment Projections

Projecting occupational employment and demand is accomplished in two basic stages. First, total manufacturing employment is estimated for the target years. These forecasts are computed using an econometric model driven by forecast values for variables such as national unemployment, interest rates, and industrial production. Staffing pattern ratios, as determined by the OES survey, are then applied to the industry employment projections and represents the second stage of the forecasting methodology.

Employment data reflects full or part-time workers, workers on paid leave, and workers on unpaid short-term absences, e.g., sick leave, temporary layoff, and jury duty. Also included are salaried officers, executives, and staff of incorporated firms. Workers performing tasks related to two or more occupations are classified according to their highest level of skill.

Job Openings

"Total Job Openings" represents the sum of openings resulting from expansion and replacement during the projection period. Expansion is the numerical difference in employment for a given period. Replacement represents job openings that transpire due to separations from the labor force, i.e., death, retirement, and pregnancy, and is based on national occupational separation rates.[1] The "Total Job Openings" column does not include labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are generally the largest source of job openings.

Limitations of the Data

The projection method does not account for cyclical, seasonal, and such external factors as sudden discontinuations or initiations of major government programs.

Employment forecasts for the nonmetropolitan counties are based on growth rates developed for the "balance of state" (Arizona less Maricopa and Pima counties) rather than for individual counties.

---

[1] "Tomorrow's Manpower Needs," Supplement No. 4, BLS, 1974, pp. 11-16.

LABOR MARKET INFORMATION PUBLICATIONS
OCCUPATIONAL EMPLOYMENT STATISTICS
BOX 6123, SITE CODE 733A
PHOENIX, ARIZONA 85005

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
EMPLOYMENT SECURITY MAIL
LAB 441

FIRST CLASS MAIL

Cheryl Waldman
Congressional Infor. Service
4520 East-West Highway
Bethesda, Maryland 20814

Reproduction of this publication for commercial use is prohibited by Section 39-121 Arizona Revised Statutes. Permission to reprint this publication, or parts of it, for nonprofit use may be granted upon written request, if credit will be given citing this publication and the Arizona Department of Economic Security.

This periodical is issued and printed by the Arizona Department of Economic Security as authorized by the Wagner-Peyser Act and is paid out of federal funds granted by the U.S. Department of Labor.

If you do NOT desire to continue receiving this publication, please check here ☐ and return this cover to address below.

If your address has changed, please indicate change and return this cover to the address below.